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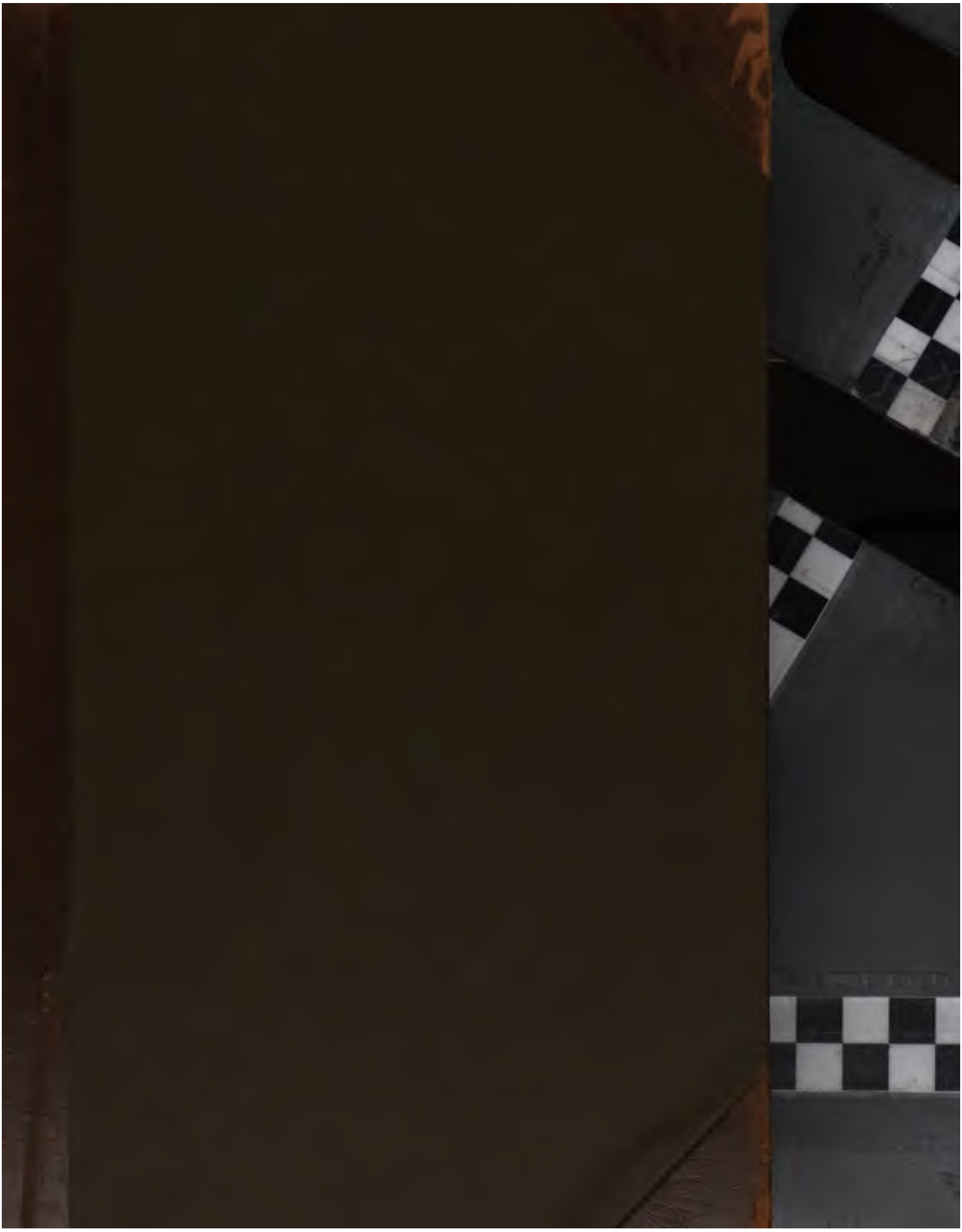

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GENERAL VIEW

OF THE

AGRICULTURE

OF THE

COUNTY OF NOTTINGHAM.

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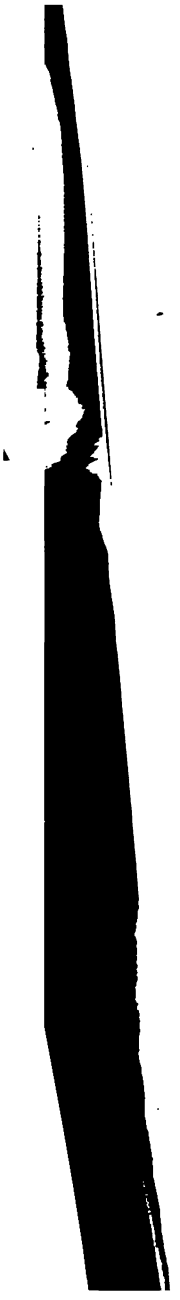

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GENERAL VIEW

OF THE

AGRICULTURE

OF THE

COUNTY OF NOTTINGHAM,

WITH

OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

By ROBERT LOWE, Esq.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE AND INTERNAL IMPROVEMENT.

LONDON:

PRINTED BY C. MACRAE.

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TO THE READER.

IT is requested that this paper, may be returned to the Board of Agriculture, at its Office in London, with any additional remarks and observations which may occur on the perusal, *written on the margin*, as soon as may be convenient.

It is hardly necessary to add, that this Report is, at present, printed and circulated, for the purpose merely, of procuring farther information respecting the Husbandry of this district, and of enabling every one, to contribute his mite to the improvement of the country.

The Board has adopted the same plan, in regard to all the other counties in the united kingdom; and will be happy to give every assistance in its power, to any person, who may be desirous of improving his breed of cattle, sheep, &c. or of trying any useful experiment in Husbandry.

LONDON, MARCH 1794.

INTRODUCTION.

EXTENT.

NOTTINGHAM is one of the smaller counties, being about fifty miles in length, and twenty-five in breadth; and is supposed to contain about 480,000 acres. It has Derbyshire on the west, Yorkshire on the north, Lincolnshire on the east, and Leicestershire on the south.

Climate.—Being situated between fifty-two deg. fifty min. and fifty-three deg. thirty-four min. north latitude, it may be supposed to be later in its harvests than the more southern counties. There is however an exception to this with regard to oats and rye, which, in the warm gravels about Newark, are as early as in most counties, being often brought to Newark market before the first of August. The seed time and harvest may in general be stated as follows: Wheat seed time, from the latter end of September to the beginning of November, and often later; spring seed time, from the beginning of March to the beginning of May; turnips, from the middle of June to the latter end of July; hay harvest, from the middle of July to the middle of August; corn harvest, from the beginning of August to the latter end of September. The only particular circumstance that seems to deserve notice in the climate, is its dryness. From my own observation, and that of many experienced persons I have consulted, I have reason to conclude, that much less rain falls in this county, than in the neighbouring ones to the west and north, which may perhaps be naturally accounted for by the clouds from the western ocean breaking upon the hills of Derbyshire and Yorkshire, and exhausting themselves before they reach Nottinghamshire or Notts; and even those from the German ocean may be supposed not unfrequently to skim over this more level country, and break first on the hills be-

fore mentioned. The greatest rains here are observed come with easterly winds. The drought of the last sumn was particularly experienced in this county.

Soil.—This county may be divided, in point of soil, i the three districts of, 1. sand or gravel; 2. clay; 3. lime-st and coal. The sand or gravel may, again, be convenien divided into: 1. the forest country, or the borders of it; 2. Trent bank country; the tongue of land east of Tr running into Lincolnshire.

The ancient royal forest of Sherwood is in extent, fr Nottingham to near Worksop, about twenty-five miles; in breadth, seven, eight, or nine miles, more or less in di rent places. Several tracts of land, particularly in the nc part as far as Rossington Bridge, lying in the same w state, have been usually called forest; but from the sur of 1609, appear not to have belonged to the forest, o have been disafforested before that time. In it are com hended several parks taken in at different times, as Welb Clumber, Thoresby, Beskwood, Newsted, Clipston, several villages or lands belonging to them. * The whole of the forest is understood to have been granted off from Crown to different lords of manors, reserving only, in fo language, the vert and venison, or trees and deer.

The latter were formerly very numerous, all of the kind. Within the memory of persons living, herds of or more might be seen together; but as cultivation increa they diminished gradually, and are now entirely exter nated. The vert and venison are under the care of four durers, chosen by the freeholders of the county.

Cultivation.—There was always about each forest vill a small quantity of land in tillage and pasture; the rest

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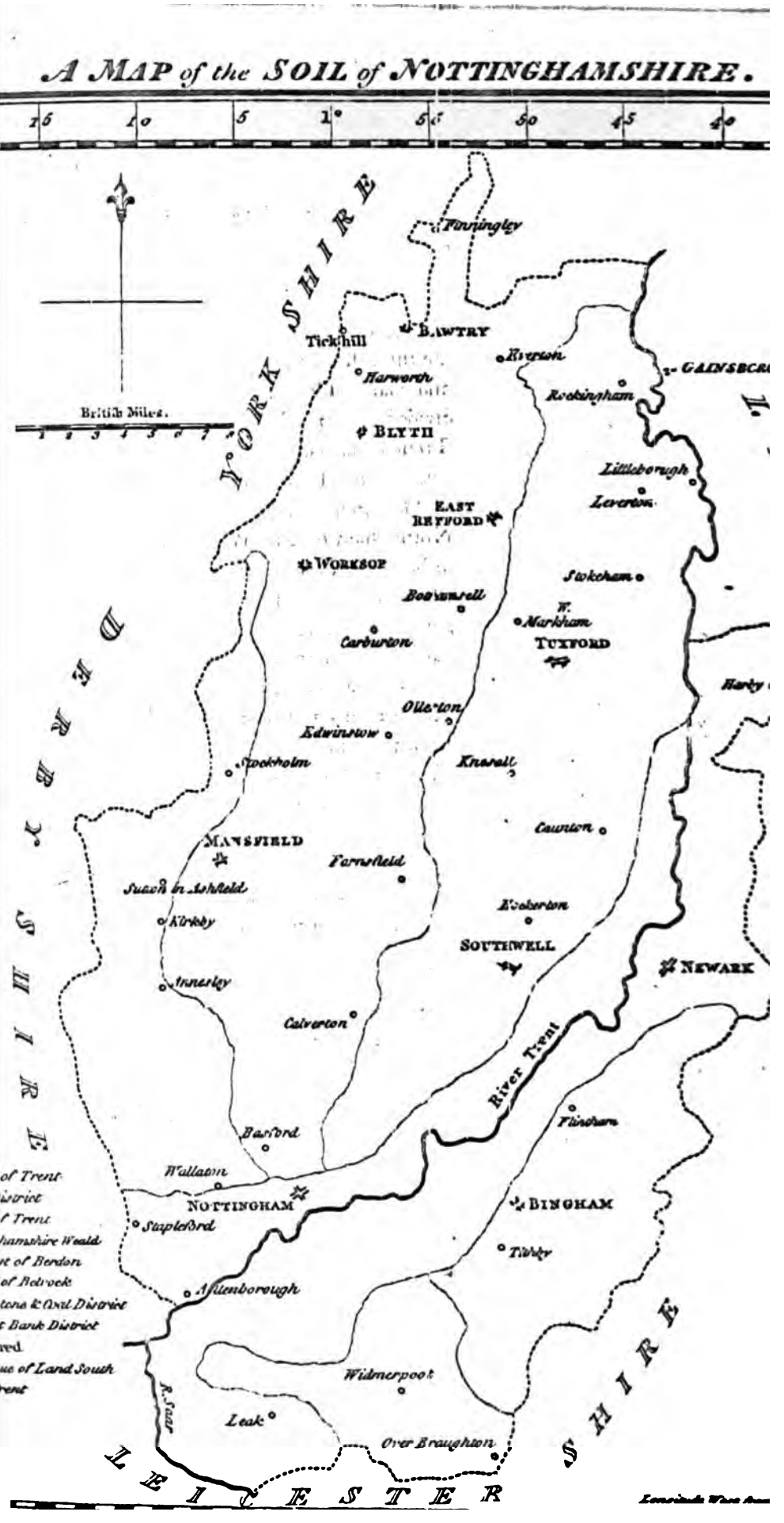
* Vide villages in the forests in this district, Appendix No. I.

† Extent, and Officers of the forest, Appendix No. L.

A MAP of the SOIL of NOTTINGHAMSHIRE.



open, common to the sheep and cattle of the inhabitants, and the King's deer.

Forest Breaks.—It has been, besides, an immemorial custom for the inhabitants of townships to take up breaks, or temporary inclosures, of more or less extent, perhaps from forty to 250 acres, and keep them in tillage for five or six years. For this, the permission of the lord of the manor is necessary, and two verdurers must inspect, who report to the Lord Chief Justice in Eyre, that it is not to the prejudice of the King or subject. They are to see that the fences are not such as to exclude the deer.

Before the introduction of turnips and artificial grasses, (generally called here, simply, seeds) which is scarce so old in the kingdom as the beginning of this century, and much later in this county, it was usual to get five crops running; oats or pease, barley, rye, oats, and lastly skegs;* then leave the land to recover itself as it could by rest. The introduction of turnips was of great improvement in insuring a good crop of barley after being fed off with sheep; but still, till within these few years, it was not usual to lay down with seeds. At present, the culture of a break, well managed, may be stated to be—Break up for, 1. turnips, laying ten quarters of lime an acre; 2. barley; 3. rye, sometimes wheat; 4. oats, with seeds, i. e. wheat, clover, and rye-grass, which are mown for hay, and then thrown open. But the greatest improvement has been made in the forest lands permanently inclosed.

Amongst these deserves to be named, in the first place, Clumber Park, belonging to his Grace the Duke of Newcastle, between ten and eleven miles round, and containing in the whole about 4000 acres, which may be said to be a new creation within these thirty years; at which time it was

 a black

* Vide Appendix, No. II.

a black heath full of rabbits, having a narrow river running through it, with a small boggy close or two. But now, besides a magnificent mansion, and noble lake and river, with extensive plantations, which will be particularly noticed hereafter, above 2000 acres are brought into a regular and excellent course of tillage; maintaining at the same time between three and four thousand sheep, and are all in his Grace's own occupation.

The following courses and practices of husbandry, used in Clumber Park, were communicated to me by Mr. Birket, his Grace's farmer, a very active and intelligent person.

On the best Land.—First, turnips; second, barley; third, clover; four, wheat; five, turnips; six, barley; seven, seeds; which lie from five to six years.

On bad Land.—First, turnips; second, oats, with seeds which lie as before. The whins are stubbed constantly, to hinder his being obliged to break up sooner. He keeps a year's stock of dung before hand, and lays it on for turnips in autumn, ploughing directly. He harrows and gets out the twitch, (called in some countries couch grass) as usual, in the spring. He lays two chalders, or eight quarters of lime an acre for turnips, but never after in that course. I shall defer saying any thing of the sheep, till I come to speak of that article in regard to the whole district.*

Newstead Park is now all brought into cultivation, divided into three farms.

Beskwood Park, containing 3700 acres, which before that time was little cultivated except in breaks, was about nineteen years since taken on lease by a Mr Barton of Norfolk, who brought a colony of Norfolk labourers; but on some differences between them, they left him in a year or two. Mr. Barton

* Vide account of the occupation of Clumber Park, Appendix No. III.

Barton is since dead, but the lease continues in his family; the land is now divided into eight farms. Many other tracts of ground have, in the course of twenty-five years, been inclosed from the forest and borders of it; some under acts of parliament, some by private proprietors without act, and some are now in agitation.*

CULTIVATION AND EMPLOYMENT OF LAND.

THE turnip husbandry prevails universally in such inclosures. Sometimes, especially where the land lies in four divisions only, the rotation of crops is, 1. turnips; 2. barley; 3. clover; 4. wheat; but more frequently it is let to remain longer under grass. It must be expected, that where every person follows his own ideas, there will be variations. The following improved courses have been communicated to me by able cultivators.

Mr. Wright of Ranby, whose mode of management has been adopted by several of his neighbours, 1. breaks up three year old lay for wheat on one ploughing; 2. turnips; 3. barley and seeds to lie three years. If a poor lay, prefers breaking: 1. for turnips; 2. barley with seeds, viz. rye-grass, white clover, sometimes trefoil or hop clover; a little red clover, but does not like it, as hurting the rest. He pastures his first year's seeds with beasts, as sheep do harm the first year. The beasts are bought in at Michaelmas, kept the day on turnips, the night on straw. The seeds are ready for them by the time the turnips are done, and they go off fat in May and June. He weans his lambs about the fourth of June, and puts them on after the beasts. After wintering his year old hogs on turnips, he puts them on the second year's seeds; and they go off fat the latter end

* Vide List in Appendix, No. IV. and V.

of May and beginning of June. On the third year's seeds he puts his ewes and lambs.

Method of killing Bracken.—His method of killing bracken, or fern, is as follows: He has at the end of a stick a blade with dull edges. A woman uses this to strike the stems, and bruise them, and will do a field in a day. This is repeated two or three times in a summer. The next morning a gummy consistence is found to exsude, and the bracken gradually disappears.

For the kind and produce of stock and manures, vide the general articles for the district.

Mr. Bower of West Drayton, *on his best forest land*; 1. oats; 2. oats or (if the former crop is not shelled) sometimes wheat; 3. turnips; 4. barley with seeds for three years, viz. rye-grass, one bushel or two strikes, (the strike being the Winchester bushel); Dutch white clover, fourteen pounds; red clover, four pounds, or cow grass, i. e. red perennial clover, called sometimes red honey-suckle.

On worse Land.—Break up for, 1. oats; 2. turnips; 3. barley, with seeds for three years; one bushel of rye-grass, twelve pounds of Dutch clover: has a year's farm-yard manure before hand; chuses to lay it on at Michaelmas for turnips, if the land is nearly clean, and ploughs it in; then breaks with the drag harrow or cultivator, drawn by oxen, to get the twitch out; ploughs once in spring, then harrows with the common harrow, as often as necessary, and uses the cultivator: does one and a half acres a day.* He sometimes goes out of his rotation, and sows blue and white pease in drill. Thinks the latter the best. He has a great opinion of buck wheat, as a cleaner of land. Finds cabbage

* For the description of the Cultivator, or Scuffler, as it is sometimes called, vide Appendix, No. VI.

cabbage a great impoverisher; sows trefoil, i. e. hop, or yellow flowered clover for sheep, not for a crop, as it does not rise high enough. Dutch clover grows as well, and is higher.

For Potatoes---trenches the swarth with a trench plough, then sets them in rows; in every third furrow about four inches, as under. Grows some of them every year, if two shillings a sack would feed with them, but at the present price of three shillings and six-pence, and four shillings, sends them to a market. He cuts them with two eyes to each set, sets seven sacks, and gets 115 per acre.

Rolling Seeds---is found a great improvement on light land, as I have myself experienced, using a stone roller.

Sowing Barley under Furrow---was tried last year by Mr. Jones of Arnold, who had a much better crop from it than when sowed at top; and found it stand the dry weather at least a fortnight longer. He ploughs his land as soon as possible after the turnips are off, beginning at one end of the field whilst the sheep are at the other. He thinks about the fifteenth of April the best time to sow his barley, which he does broad-cast, then ploughs it in. If he wishes to lay down with seeds, he then sows his seeds, and harrows. If he does not want seeds, he never harrows. Mr. Green of Bankwood has tried the same experiment with the like success. For the kind of stock and manures, vide the general articles.

Potatoes are a good deal grown in the villages near Nottingham, (seldom above an acre together) for that market and home use.

Winter Tares---have been lately introduced. They are sown in October or November, two strikes to the acre; and are an excellent food, cut green, for horses or other cattle.

Rabbit

Rabbet Warrens.---There were formerly many rabbet warrens in this district. Those at Farmfield, Clumber Park, Beskwood Park, Sanson Wood, and Haywood Oaks, have been destroyed. The following remain: Clipston, Peasefield, Inkersall, Oxton, Elidworth, Calverton, and Newsted. The land of some parts is so bad, that it is not likely to answer if taken up for husbandry. Some of it indeed has been tried and thrown up again.

PARTICULAR ARTICLES IN THIS DISTRICT.

WELD--or dyers weed, the *reseda luteola* of Linnaeus, used for dying yellow, is grown a good deal about Scrooby, Ranskill, and Torworth; but the quantity varies much, according to the demand. It is sown with the barley and clover, half a peck to the acre; is pulled up from amongst the clover the next year, when the latter is coming in blossom, tied in bundles and dried. A good crop is half a ton an acre, a tolerable one six hundred weight. The price varies exceedingly, sometimes rising to three shillings a stone of fourteen pounds, or 24l. a ton; often 2s. 6d. and sometimes falling as low as 8d. a stone, or 5l. 6s. 8d. a ton.

Liquorice---was formerly much grown about Worksop, but is now entirely left off.

WATER MEADOWS.

ONE hundred acres have been made at Clumber Park in a masterly stile, by Mr. Marson, the able manager of his Grace's improvements, according to the written and personal instructions of Mr. Boswell of Piddle Town, Dorsetshire.

On Whitemoor farm, near Thoresby, twelve acres can be watered, and with very good effect, which were begun by Mr.

Mr. Samuel Sherring, agent to the late Duke of Kingston, at his own expence (being tenant), except materials for the wears, &c. &c. finished by Mr. Pickin, agent to Mr. Pierrepont (being the present tenant), also at his own cost. Mr. Pickin apprehends, that Mr. Pierrepont has twenty acres more of boggy ground, capable of that improvement.

Robert Ramsden, Esq. of Carlton, near Worksop, employed a man from Gloucestershire to lay out a meadow for watering. It is well executed, and the whole of it might have answered as well as a small strip of it has done, every year since it was made, and upon which there was, last year, so much grass that two great crops of hay might have been cut from it. The part that was not flooded, for want of the command of water from another brook, was very inferior, both in quantity of hay, and after grass; also the bit that was watered is free from moss, rushes, and other weeds, which impede the growth of the grass on the part not flooded. There are many other low grounds that would be greatly improved by properly watering them.

HOPS.

SOME are grown in this district, viz. at Rufford, about eighty acres; Ollerton, thirty acres; Elksley, thirty to forty acres. But as they are much more the product of the clays, I must refer for the culture of them to that district.

MANURES.

Farm Yard Dung.—THE best is observed by Mr. Bowes to be made by beasts fed with oil cakes.

Robert Ramsden, Esq. of Carlton, observes, that it has been long a practice with strong soils to plough in manure

in

in the winter; but very few people have followed that method upon hot sandy soils: it, however, answers very well even upon such lands after a wheat crop, which is intended for a summer fallow with turnips, and which land is afterwards worked very much in the hottest weather, to get out the twitch grass. This has been fully proved in a farm near Carlton for several years past, and particularly the last year, by part of a field which was so managed upon which there was a much finer crop of turnips than upon the other part, which was managed in the general way, viz. by ploughing it in winter, without any manure, making a clean fallow in the hot weather in Summer, and ploughing in the manure immediately before sowing the turnips. Vide Mr. Birket and Mr. Bower's practice above.

Lime—is almost universally used on the fallow for turnips; the quantity from one to two chalders, of thirty-two strikes. Mr Bower limes, for the sake of his seeds, with one chalder of lime an acre, in spring, besides farm-yard manure; following it sometimes with fresh manure. He considers lime as hurtful without farm-yard manure.

Dove Manure—is not much used in the sand land. Mr. Birket used his own about four quarters an acre on turnips.

Bone Dust—ground by mills on purpose, has been used by Mr. Birket and Mr. Bower to great advantage, as a top-dressing for turnips; one chalder an acre, at one shilling and sixpence a strike, besides carriage.

Mr. Wright laid on for turnips fifty bushels of bone dust an acre. The crop was very good. The seeds made no appearance the first year, owing, perhaps, to a dry summer; but the second, and every year after, were equal to where they were dunged.

Rape Dust, or Oil Cake from Rape.---Mr. Flower of Olerton has tried it on turnips; ten hundred weight an acre, at four pounds a ton. The turnips went off on the first sowing, but at the second succeeded very well. Mr. Flower tried the following experiment: 1. malt combs; 2. ground bones; 3. horn shavings; 4. stable dung; 5. salt; 6. Baron Van Haake's powder, on strips of low grass land coming to a point. He found them succeed in this order: 1. malt combs; 2. stable dung; 3. and 4. horn shavings and ground bones, equal; 5. and 6. salt and Van Haake; good for nothing.

Green Manures.---Mr. Wright has ploughed in clover with success, as a layer for wheat: has tried *buck wheat*, rolling it down when in flower, and ploughing it in; but found no benefit from it.

Malt Combs---used for seeds and tillage, six quarters on an acre for turnips, at five shillings a quarter.

Scrapings of Oiled Leather---used for hops, at six-pence per bushel.

Bog Earth.---Mr. Birket has used sixty loads of black bog earth an acre, on seeds, with good success. Had not the same on turnips.

LIVE STOCK.

Black Cattle. FEW are reared in this district. For feeding, after trying various sorts, Mr. Wright prefers the good sort of Irish cattle. He would not buy any that would not feed to fifty or sixty stone, of fourteen pounds.

Sheep---The old forest breed are a small polled breed (though some are horned) with grey faces and legs; the

fleeces of which may run from thirteen to eighteen to t
tod of twenty-eight pounds; the wool fine, the price
1792 being from thirty-four to thirty-six shillings; that
1793, from twenty-nine to thirty-one shillings. The carcass
fat, from seven to nine pounds a quarter. In the inclos
farms, the breed has been much improved of late years, l
various crosses; sometimes the Lincolnshire pasture sort, b
of late more the new Leicestershire, or Dishley. Mr. Birk
of Clumber crosses the new Leicestershire, or Dishley, wi
the forest kind; reckons their wool seven and eight to the to
the price sometimes two-thirds, sometimes three-fourths,
the true forest wools; the carcass eighteen to twenty poun
the quarter. The breed in Thoresby Park are likewise t
forest breed, crossed with the Dishley or new Leicestershir
the tups, coming from Mr. Bettison of Holme Pierrepont. Th
are a round compact kind; the fleeces from six to eight to t
tod, or, at an average, about four pounds a fleece; the carcass
from seventeen to twenty-two pounds a quarter. The fo
lowing instance was given me of the improvement from t
cross:

Mr. Jones of Arnold used to sell his forest wethers,
four years old, for fourteen shillings; now on inclosed lan
not yet broken up shearlings, *i. e.* under two years old, of M
Bakewell's breed, with forest ewes, turniped not more th
four months, at thirty-four shillings.

Mr. Flower tried the experiment of feeding four differe
breeds together; kept, whilst getting ready for market, in t
same manner, on good seeds and turnips. 1. all Lincol
shire, of the middle breed, sold in August, at three and a h
years old, for twenty-eight shillings a piece; 2. crossed, b
tween a forest tup and Lincolnshire ewes, of same age, thi
shillings; 3. all forest, of same age nearly as all Lincolnshi
twenty-eight shillings; 4. new Leicester at two years a
one month, forty-six shillings.

	lb.
Fleece of all Lincolnshire weighed	10
Forest and Lincolnshire mixed	8
All forest	5
New Leicester	7

Mr. Wright breeds from large Northumberland ewes, and new Leicestershire tups. In 1792, he made upwards of thirty-nine shillings a head of his wethers, at thirteen or fourteen months old, reckoning in the lambs wool; he now thinks it better not to clip lambs. His ewes tod four or five; his hogs, when not clipped as lambs, four or less, at twenty-eight pounds to the tod; carcass at a year old, (at which age he always sells) eighteen pounds a quarter.

Mr. Bower breeds in the same manner as Mr. Wright; sells off all shearlings, which run four to the tod, carcass eighteen pounds a quarter. The wool, this year, about two-thirds of the value of forest wool, but in general three fourths For the last three years he got twenty-five shillings, now bu eighteen shillings.

WOODS.

THE principal remains of the ancient forest woods are, the Hays of Birkland and Bilhagh, being an open wood of large old oaks, most of them decaying, or stag headed, and without underwood, except some birch in one part; it extends about three miles in length, and one mile and a half in breadth. By a survey taken for the Crown, in 1790, there were found in both together, ten thousand one hundred and seventeen trees, valued at 17,142l. The land on which they grow is one thousand four hundred and eighty-seven acres, and is supposed would be worth, when cleared of wood, and inclosed—Birkland, eight shillings, and Bilhagh, twelve shillings an acre. The bounds of each are not specified. For the comparison of different surveys, vide App. No. VII.

A part of this wood has been taken by grant into Thoresby Park. Vide Appendix, No. X.

Harlow Wood, Thieves Wood, and the scattered remains of Mansfield Woods, are of small extent, and inferior size of timber.

In Clumber Park are the remains of two woods of venerable old oaks, called Clumber Wood, and Hardwick Wood. Since they have been shut in from cattle, the young trees are springing up surprisingly, from the acorns. For the woods and plantations in this district, vide general list, Appendix, No. X. and subsequent ones of particulars.

Plantations.---The spirit of planting has prevailed much in this district since about forty years. Unfortunately, the first plantations were chiefly of firs, whether from the desire of making an early appearance, or from the notion that forest trees were not easy to rear in this soil. It has, however, been found since, that trees of all kinds, well planted and properly sheltered, succeed very well.

His Grace the Duke of Newcastle's plantations within Clumber Park, amount to one thousand eight hundred and forty-eight acres. For the general method of planting practised there, I must refer to Appendix No. VIII.

I will only add, that in the extensive inclosures made by his Grace in Elksley, Bothamsell, &c. the quick hedges, which are remarkably fine, were raised with posts and rails, the thinnings of these plantations. I was assured some years since, that sixty miles running measure had been done in this manner; and by this time it must amount to double that number. Vide No. X. &c.

For the method of planting and managing his Grace the Duke of Portland's plantations, vide Appendix, No. IX.

TRENT BANK LAND.

I CONSIDER as Trent bank land, the level ground accompanying the Trent, from its entrance into the county, down to, or a little below Sutton upon Trent, where the clay soil comes down to the river on the west side; and on the east, a poorer sand runs in a tongue shape into Lincolnshire. I include in it, likewise, the level grounds running up the river Soar, from its junction with the Trent, up to Rempston,---as the townships of Ratcliff upon Soar, Kingston, Sutton Bonington, Normanton, and Stanford; and those lying on the back of them,---as East and West Leak, Cortlingstock, and Rempston, which, though on higher ground, are much lower than the Woulds, and of a good mixed loam, convertible, and equally fit for tillage or pasture; not let at less than twenty shillings an acre throughout, taking upland and meadow together; as well as the strip of higher land, on which are the townships of East Bridgeford, Kneeton, Flintham, and Stoke, which, though above the level of the rest, are of a mellow mixed soil, different from the clay of the vale of Belvoir, adjoining. This level is, in general, of a mellow soil or vegetable mould, on sand or gravel, though in some places these rise to the surface. It is of different breadths; in some places not above a mile and a half; in others, three, four, and five miles wide; and is mostly inclosed.* The occupation is mixed of arable and grass, though more of the latter, especially contiguous to the river.

The Arable---is generally calculated for the turnip husbandry, and kept in those courses, producing good crops of barley, and remarkable fine ones of oats, eight, and sometimes ten quarters an acre, particularly about Muskham and Balderton. They are so remarkably good, as to be distinguished by

* East Leak Deaston, Swinton, East Bridgeford, and Stoke, are open. Nottingham field land is open from old Lammas to old Allhallowtide; meadow from old Michaelmas to old Christmas.

by persons of knowledge from any other. Weight o best, fourteen stone of fourteen pounds the sack; wh but eighteen. Oats are picked by hand by curious pe for seed. If the top one is a single oat, the rest or stem will be so; the double ones are rejected. It strong instance of the improvement of husbandry, that thirty years ago, the sand lands in Gresthorp Cro and Muskham fields, were not worth more than two lings and six-pence an acre, covered with wild sorrel lay lea for six or seven years. The alteration is ascribed to turnips and clover.

The course of crops is often, 1. turnips; 2. b 3. seeds for one, two, three, or four years; 4. bre for wheat, sometimes for oats; sometimes 4. whe oats; but not a general practice.

Joseph Sikes, Esq. at Balderton, near Newark, pl a lea, and sows, 1. grey or white pease; 2. tu 3. barley; 4. oats and seeds. He prefers sowing with oats to sowing them with barley, because the (generally Poland ones) being shorn, (*i. e.* reaped) i country; when there are fine crops of them the see less damaged.

Mr. Sikes always found benefit to his wheat from m a second crop of clover, instead of eating it.

N. B. This is the Hertfordshire method.

Winter Tares---are lately grown by some few pers cut for green fodder. Vide Ante Forest District.

Grass Lands—are employed more for feeding th dairy, except along the Soar, where, and in the to the south bank of the Trent, as far as Nottinghar Thrumpton, Barton, Clifton, and Wilford, as well as tenborough, and Chilwell, on the opposite side of the are large dairies, milking from twenty to twenty-five

chiefly employed in making of cheese. The island between the towns of Averham, Kelham, Muskham, and Newark, is remarkably fine feeding land. Under the gravel here is found a clay, which is burnt into bricks; probably the same would be found in other places in this level. The beasts fed, are generally of the short-horned Lincolnshire and Holderness kind.

LIVE STOCK.

Black Cattle.---NOT many are bred in this district. On the Soar bank the breed of cows used to be indifferent. Of late they are got into a pretty good long-horned breed. They rear almost all their female calves; which, when young, are pastured amongst the sheep, and at three years old are taken into the dairy, and the old ones fed off.

Some persons have improved their stock by the Dishley breed. Mr. Breedon, of Ruddington; Mr. Bettison, of Holme Pierrepont; * with three others, bought the Garrick bull, at Mr. Fowler of Rollwright's sale, for two hundred and five guineas. The bull called Young Garrick was bought by Mr. Rowland, of Stamford, in September last, for one hundred and fifty guineas. A bull was bought at the sale of Mr. Paget, of Ibstock, in Leicestershire, for four hundred guineas, of which Mr. Sandy, of Holme Pierrepont, had a sixth part.

Sheep.---The sheep of this district have been much improved for many years past, by tups of the Lincolnshire and new Leicestershire sort; but of late many more of the latter. It is become of late a principal object of attention, and many breeders are spreading the improvement, by letting out their tups, some at as high a price as one hundred guineas.† Amongst

* Vide Mr. Bettison's observations, Appendix No. XXII.

† Mr. Bakewell has let this year two shearling tups, each sheep between two people, at four hundred guineas each.

Amongst others, Mr. Breedon, of Ruddington; Messrs. Stubbings and Bettison, of Holme Pierrepont; Mr. Deverell, of Clifton; Mr. Buckley, of Normanton Hill; and Mr. Maltby, of Hoveringham, are noted. Mr. Breedon was one of the first who began, about twenty-four years ago. He had his first tup from Mr. Bakewell, and except two years, has had one or more from him every year since. He breeds in and in, to keep up the kind; reckons his shearlings, or two years old sheep, fat, from twenty to twenty-eight pounds a quarter; his three years old, from twenty-five to thirty-five pounds a quarter. Their wool, under four to the tod, the value of it about two-thirds of the forest sort. These sheep are fed a good deal on artificial grasses; red clover mixed with some white. Of late the white is rather preferred, as accidents happen from the red being too luxuriant, causing an overflowing of the gall.

Mr. Breedon thinks it may be an improvement, to clip the lamb hogs, and sell them off that summer, at one year and some months old, getting rid of them a year sooner than usual. Mr. Sikes has a fine breed of sheep, having for these last fifteen years had all Dishley tups. He observes, the Lincolnshire are desirable for quantity of wool, the Leicestershire for mould. Mr. Sikes always keeps salted hay; has standing racks for his sheep, which he fills the beginning of September, and keeps on till Christmas: two pecks of salt are used to a load. He once led his clover, supposed to be quite spoiled with wet, and salted it. He put one hundred and twenty hogs to turnips, with this hay in racks, in a very wet season. He did not lose one by the water. They eat every morsel of it. Horses are very well kept on it.

Horses.----Some are bred in this district; chiefly a middling kind of black cart horse, though the breed begins to be improved by Leicestershire stallions.

MANURES.

Dung.---THE manures generally used are farm-yard dung.

Lime---Chiefly from Newark, which is of a stronger nature than Kirkby or Mansfield Wood-House lime; from having, as Mr. Sikes observes, more animal matter in it, the other more siliceous earth: from two to two chaldrons and a half per acre on the fallow for turnips.

Mr. Sikes, who joins a knowledge of chymistry to that of agriculture, has made various experiments on manures, as follows:

He thinks the good effects of lime much increased, by mixing coal ashes with it immediately when drawn from the kiln, setting it on fire, and letting it burn as long as it will.

Mr. Sikes expects *lime-stone powder* to do as well on strong clay as lime, but has not tried it yet.

N. B. The gypsum used in Germany, is found to answer better raw than calcined. For grass land he would always mix lime with earth.

Gypsum, or Plaster---the best of which is produced on Beacon Hill, near Newark, has been tried by him for three years together, in the same manner, and with the same bad success, as Sir Richard Sutton.*

Bone Dust---laid on grass twenty strikes an acre, with great effect. The fresher it is the better.

Whale Blubber---mixed with soil from privies, which had been previously mixed with lime. A hogshead of whale

 blubber,

* Vide Young's Annals of Agriculture, and vide Clay District, and No. XI; Appendix.

blubber, of sixteen hundred weight to ten cart loads of soil, laid together for sixmonths and turned twice: laid on grass land where the grass was growing quick, three or four acres at a time, Mr. Sikes brought his sheep in again in a week.

Soot---About four quarters laid on wheat per acre, which, on cold land, is sure to succeed.

Compost Dunghill---1. Mix one hundred loads of earth with ten chaldrons of lime, about May; let them lie together till the lime is fallen, but not run to mortar; then turn it over. Lay seventy loads of stable dung in a heap close to it. When in high putrid heat, which may be, perhaps, in four months, lay a layer of this and a layer of earth, two-thirds of manure to one of earth, and so go through the hill. Turn it over at the spring, and lay it on in March and April; eight loads an acre on grass.

2. Mix lime and earth as before, and turn it; then cover it with soil from privies, and coal ashes, about one-third in quantity; lay it at top for some months, in an oblong heap, then turn and mix all together, letting it lie some months longer, and lay about eight loads an acre on grass. He finds road drift good on clay land.

Dove Manure---Four or five quarters an acre on grass. He lays it in a heap in a barn, and turns it till it falls.

WOODS AND PLANTATIONS.

THERE is little wood in this district, but in hedge rows. In 1771, and 1772, the cliff opposite *Hasleford Ferry*, in Flintham, which had formerly been covered with good timber, was planted with ashes for springing. The extent, thirty-one acres, three roods, and fourteen perches. They were cut in 1791, and 1792. Thirteen hundred pounds was offered for them standing, in 1791, making above forty shillings per annum, an acre, for the

the time of growth. Five acres, one rood, and eight perches, were planted in 1792. In Kneeton, in 1781, six acres of ash wood, sprung seventeen years before, were sold standing for seventy pounds.*

SOIL.

3. *The Tongue of Land east of Trent, running into Lincolnshire,* is of a sandy soil, in some parts rather better, but in general very poor. A great part of it is taken up by low moors, much flooded by rains. George Neville, Esq. of Thorney, has reclaimed a considerable tract from the moor, and brought it into high cultivation; and has also, within twenty-five years, raised upwards of two hundred acres of very flourishing plantations. Some of the land, particularly where there is a thriving young plantation of seventy-five acres, laid out in quarters with ridings, appeared to me the worst I had ever seen, bearing little else naturally but the white lichen, or rein-deer moss. I cannot do so much justice to Mr. Neville's exertions, as by inserting in Appendix, No. XII. the account with which he was pleased himself to favour me, of his improvements and management.

CLAY DISTRICT.

THE clay country of Nottinghamshire may properly enough be distinguished into, 1. the clay north of Trent, consisting of the north and south clay divisions, and hundred of Thurgarton; 2. south of Trent, comprehending, 1st, the vale of Belvoir; 2d, the Nottinghamshire Woulds.

Clays North of Trent.—1. I must observe that the clays north of Trent are in general not of so tenacious a nature as in many counties, being much more friable, from containing a portion of sand, and falling more readily by the weather; particularly the red clay, of which there is a great deal in the country round Tuxford, and in the hundred of Thurgaton, which might perhaps be more properly called a clayey loam,

* For woods and plantations, vide Appendix, No. XVII. (*d*)

and a blackish clay soil, commonly called *a woodland so*
which there is plainly a mixture of sand. There is a
intermixture of open field and inclosed townships; but
of the former, as may be seen by No. XIII. in Appendi

COURSE OF HUSBANDRY.

IN the open field, the common course of husbandry is
sued, as, 1. fallow; 2. wheat, or barley; 3. beans, peas
both mixed. The latter crop is very common in this cou
The reason given for it is its smothering the weeds;
have always observed the crops to be very foul.

Folding is little used. Few farmers, indeed, have
enough of sheep to do it with any effect.

In some places, of late years, clover has been sown
the barley, and mown the third year, instead of the
crop, which in lands that have been long in tillage is
very poor. The old way in Oxton fields, was the
one of two crops and a fallow, there being only three
In consequence of the act for cultivation of common
of 1773, they have now sown broad or red clover with
wheat or barley (except a few who chuse to have
old crop of pease and beans the next year); they mo
clover the second year, and then stock it with three h
to two acres; or else two cows, or six calves, or
sturks to an acre; and then fallow, except a few pe
who let the clover lie another year, and then sow it
wheat. They find this answer so well, that they inte
divide one field into two, so as to have four fields
barley, one clover, one wheat, and one fallow. In inc
lands, part is kept as arable, part pasture. Fallows ar
retained, sometimes in the old course of the common
These different courses have been practised: 1. fallo
beans; 3. barley; 4. artificial grasses two or three y
then, 5. wheat; or 4. red clover; 5. wheat: or, 1
low, with dung 2. barley, with seeds; 3. 4. and 5.
pasture; 6. break up and sow beans, sometimes

peaſe, or rouncival peaſe alone; 7. wheat. The following courſe has alſo been tried with ſucceſs: 1. fallow; 2. barley or wheat; 3. beans; 4. red clover; 5. wheat. The clover crop ſown with the beans, and wheat crop, have both been remarkably good—at Norwood Park, by Sir Richard Sutton; by Mr. Musgron at Halam; and at Red Hill, by Mr. Cook.

Mr. Turnell, of Stokeham, in inclosed lands tried crop and fallow alternately, for twelve years; but did not find it anſwer. Potatoes are grown, but no where in large quantities, ſeldom above a land or two together. Moſt cottagers have a plot of them, which is of great uſe. The land is generally too ſtrong for turnips, to be fed off. Rape is ſometimes ſown inſtead of them, for ſheep feed; ſometimes for a crop yielding half a laſt, or five quarters, often four; medium price, twenty-five pounds a laſt; ſometimes thirty-three pounds, ſometimes fifteen pounds only. Scarce any oats are grown.

Winter Tares—begin to be introduced for cutting green.*

MANURES.

Dung.—FARM-yard dung is generally laid on the fallows, but good farmers wiſh to keep it for their graſs grounds.

Lime—has been partially introduced for ſome years back, its effects being much diſputed, and appearing indeed to be different in different places; owing perhaps to almoſt imperceptible differences of ſoil, or to the prior ſtate of culture of the lands. The common proportion is ten quarters per acre.†

Dove

* Vide Ante Foreſt Diſtrict.

† Vide Appendix, No. XIV. Different Accounts of the Effects of Lime.

Dove Manure—is produced in great quantity in this district, more pigeons being kept than are probably in any part of England. It is a well attested fact, that some years since 700 dozen were sold on one market day at Tuxford, to a higler from Huntingdonshire, at the price of sixty-three pounds, or guineas. It is used as a top dressing for wheat, at about three quarters per acre; but the greatest part of it is bought up at one shilling to fourteen pence a strike, and carried to the limestone part of the county, or into Derbyshire, where it is supposed to do more service.

It has been said, as an apology for the farmers in this district suffering their dove manure to be carried away from them, that the money might be laid out in other sorts of manure, to more advantage for their land.

Paring and Burning—is sometimes used, but appears to be a dangerous practice, unless done very judiciously, and the land well supported with manure afterwards. Lands in Norwell lordship have been entirely spoiled by it. *

Gypsum or Plaster—has been tried by Sir Richard Sutton, without success.† But in case other persons should be inclined to make the experiment, it may be proper to mention that the quantity recommended by German writers, who speak highly of its effect, is about six strikes, ground fine, per acre, as a top dressing for any kind of corn, but particularly recommended for natural or artificial grasses.

Sir Richard Sutton has found great benefit to grass ground from skerry stone found under the red loam, broken small, and laid on at the rate of five tons an acre.

Old Rotten Tanners Bark—spread pretty thick, has been found of great use to grass ground.

Compost

* Mentioned by Mr. Calvert. Vide Appendix, No. XI. XV.

† Vide Young's Annals.

Compost Manure.—Mr. Cook, of Red Hill, mixes his own farm-yard manure, Nottingham stable-dung, soil from privies, ashes, &c. and lays it on in spring, on his clay ground for turnips and harrows.

Ashes.—Mr. Cook, of Red Hill, lays coal ashes on wet grass land, four waggon loads an acre.

PASTURE.

MOST farmers have some dairying keeping, from five or six to ten or twelve cows, in general, perhaps eight cows to 200 acres, chiefly a woodland breed; but it is not their principal object, except about Fledborough, and from thence close along the Trent, down to Gainsborough, where the numbers kept (especially at Fledborough) may run as high as thirty.*

The grass grounds along the Trent, in the open townships, are generally shut up at Lady-day, some part opened for stinted pastures at old May-day, some kept for hay, and all commoned from old Lammas. A good many young cattle are reared. In some places, particularly in the north clay, there is more feeding.

Mr. Turnell, of Stokeham, has a particular method of feeding which deserves to be mentioned. He feeds about eighty head of beasts a year, from twelve to twenty of his own breed. He always buys in at spring, takes care to have twenty to thirty fresh beasts, or incalved heifers, mostly of both sorts, that are sure to go off before the middle of July; when he lays in, i. e. shuts up about forty acres, to finish or make fat all his beasts that went lean at spring. These go off in succession till Christmas. The land laid in (where

* Vide Appendix, No. XI.

good) will be very often ready to pasture again in six weeks. Mr. Turnell gave me the following instance of the difference *of sand and clay land, in bringing the sheep forward.** He feeds the same breed as Mr. Wright. At one year old, Mr. Wright's were worth 1l. 19s. and Mr. Turnell's, of the same age and breed, not more than 1l. They were compared in April and May. Mr. Turnell's, he owns indeed, had not been fairly kept. In the February after, sixty out of ninety of Mr. Turnell's were sold at one year and ten months old, for 2l. 6s. Clay ground will not bring them so forward; they must be kept another year. *To shew the difference of the value arising from the breed.* Mr. Turnell told me, some of the same breed as his, kept by Mr. Wright's brother on good clay land by the Trent side, were worth 2l. a piece, besides the wool, at one year and a half old. Two amongst them, got casually by a bad tup, and which had always been with the others, were worth no more than one guinea.

LIVE STOCK.

Black Cattle.—THE beasts reared in this district are generally of a poor coarse kind, commonly called wood land beasts. Some gentlemen and principal farmers are endeavouring to introduce a better sort.

W. Pegge Burnell, Esq. of Winkborn, a gentleman very understanding in husbandry, keeps the Yorkshire short horned breed, and computes that they are worth at least, as much at three years old, as the old breed at four. Mr. Turnell of Stokeham rears the same.

Sheep.—The fallow sheep are a poor breed, a mixture generally between the forest and Linconshire pasture sheep. In

* Vide Ante Forest District.

In the inclosures, many farmers have raised their breed, by getting more into the Lincolnshire, and of late into the new Leicestershire sort, particularly in Thugarton hundred, adjoining to the Trent bank country.* Mr Turnell of Stokeham breeds in the same manner as Mr. Wright in the forest, viz. large Northumberland ewes with Dishley tups.

Horses.—Most farmers raise a foal or two every year, but of a midling kind of black cart horses, which calls for improvement.

HOPS

ARE a considerable article of produce in this district, principally in the part about Retford, and some about Southwell and its neighbourhood.† They are generally known among traders, by the name of North Clay hops; they are much stronger than the Kentish, going almost as far again in use; but those who are accustomed to the latter, object to their flavour as rank. The quantity grown is fluctuating, some yards being laid down every year, and others taken up. It is supposed there are not so many now grown as thirty years ago, but that the culture has increased within the last ten years. Mr. Bower, to whom I am indebted for the accurate account of the management of them, inserted in the Appendix, No. XVI. supposes the number of acres now so employed in the whole county 1100: others carry them as high as 1400.

WOODS.

THERE are in this district considerable tracts of woods, which are chiefly sprung. Of these, I have inserted in the

* Vide Appendix, No. XV. † Vide Appendix, No. VI.

Ap. No. XVII. and those annexed, (*a*, *b*, *c*, &c.) an account, with the management of them as far as I have been yet able to learn. I may observe in general, that the principal value of spring woods in this country, arises from the ash for hop poles; and the stakes, and bindings, flakes, &c. for farmer's use. From the universal use of coal for fuel, brush and cord wood are of less value than in many other counties; the bakers even having learnt to heat their ovens with coal. The timber in most of the woods in this district having been cut within these twenty years, and the underwood hurt by the growth of the timber, they have been reduced in value; but are now, in general, improving by new planting and taking care of the underwood, and young oaks are getting up, for timber being left for standards; vacancies are generally filled up with ash. Some charcoal is made.

Thorney Wood Chace.—A branch of the forest of Sherwood, of which the Earl of Chesterfield is hereditary keeper, by grant of 42. Eliz, comprehends most of the towns mentioned in the southern part in the survey of 1609. It is well stocked with fallow deer, as the rest of the forest was formerly with red-deer, which appear not to have intermixed. It has been hitherto well wooded; but the recent inclosures of Lambly and Gedling, when completed, will reduce it to very little. *In point of soil*, only the towns of Carlton, Gedling, Burton, and Bulcote, Lowdham, Lambley, Woodborough, and part of Arnold and Calverton, fall within this district.*

VALE OF BELVOIR.

THE Vale of Belvoir having no precise known boundaries, as soil is with me the chief distinction, I shall call by that

* Vide List of Inclosures in the Clay District, north of Trent, Appendix, No. XIII. and No. XVII. (*c.*)

that name the country lying between the hills called the Nottinghamshire Woulds, and the strip of land running along the Trent, on which stand the towns of East Bridgeford, Knecton, Flintham, and Stoke; which, though not on the same level with the rest of the Trent bank land, is of a mellow mixed soil which will bear the same cultivation, quite different from what I term the Vale. The soil of this latter is generally a clay or loam. The country is part open, and part inclosed; as in Appendix, No. XVIII. In the open fields, the course of husbandry is generally, 1. wheat or barley; 2. beans; 3. fallow. In Elston are four fields, as 1. wheat; 1. barley; 1. bean; 1. fallow. In the inclosures there is almost universally a mixture of arable and pasture, and a little dairying.

CULTIVATION.

CLEAN fallows are generally made in rotation, as in the open fields. Sometimes red clover is sown with barley, and broken up instead of a fallow. Sometimes white clover, rye-grass, and rib-grass, or narrow leaved plantain, is sowed with the barley, and let lie three years.

Mr. Pocklington of Kinnoulton, an active and spirited farmer, has had sixteen crops running, (including clover) without a fallow. He is careful always to hoe out weeds early in spring, as soon as they appear. At harvest he mows his stubbles directly, sets his crop in lines, and, if possible, ploughs the intervals before it is carried. He then ploughs it in to make the weeds vegetate; and as soon as that happens, if dry weather, ploughs again as soon as possible. He lets no wet stand on any account; drawing it off with the spade, or otherwise. He allows, that in wet lands fallows may be required oftener. The land in general is too strong for turnips. Rape is sometimes got instead of them, but rarely.

MANURES.

Dung.—FARM-YARD dung is the principal manure. Dung-hills are made, but not so carefully as might be. Mr. Pocklington has dressed with dung, immediately after harvest. He must have for this a year's dung before hand.

Lime—is used in a small quantity, viz. five quarters an acre; by many not at all. Mr. Pocklington uses ten quarters. Great expectations are entertained of improvement from the Derbyshire Crich lime being brought by the Cromford and Grantham canals, (the latter of which runs through the whole of the Vale) when the navigation is complete. Mr. Pocklington and others have thoughts of bringing the raw lime-stone, and burning it; but as the carriage is paid by weight, quere whether this will answer.

Dove Manure—is used by Mr. Pocklington, and some others, as a top dressing on barley, about ten strikes an acre, at one shilling.

Paring and Burning—is used sometimes in breaking up old turf on inferior land, for, 1. turnips; 2. wheat or oats; 3. fallow. Mr. Pocklington observes, that land which eats bare, should never be burnt only where it is rough.

LIVE STOCK.

Black Cattle.—A GOOD many beasts are still reared, though that business is on the decline; a mixture of long and short horned, which greatly wants improvement.

Sheep—are much improved of late by the Leicestershire crops. Their wool, three and four to the tod; good shear-

lings,

lings, twenty-four to twenty-eight pounds the quarter; common ones, from sixteen or eighteen, to twenty-three; wool three and four to the tod.

No woods of any account.

[For drainage and drains, vide the general article for the county.]

THE NOTTINGHAMSHIRE WOULDS

ARE a range of high bleak country; the townships are some open, some inclosed, as in Appendix, No. XVIII. The soil is generally a cold clay. The arable is occupied in the common course of two crops and a fallow. Clipston has four fields; the inclosed part is chiefly poor land; a little is ploughed, very few turnips, some clover. The Woulds, properly called, or wastes, in the open parishes, are stinted pasture for young beasts and horses. Few sheep.

WOODS.

THERE is very little wood in this district. Bunny Woods, belonging to Sir Thomas Parkyns, Bart. are about seventy acres.

LIME AND COAL DISTRICTS.

THE lime-stone and coal district may be defined to lie to the west of a line drawn from the river, at Shire-Oaks, pretty nearly south by west to the river Lene, near Woolaton and Radford, no lime being found east of the Lene. The lime-stone, which may be called a hungry lime-stone, rising up to the vegetable mould, commencing at Shire-Oaks, and beginning to abutt on the coal near Teversall, runs afterwards between it and the sand. The line of coal begins

a little north of Teversall, runs about south and by west, to Brookhill; then south to Eastwood; afterwards about south-east, or a little more easterly to Bilborough, Woolaton, and the Lene. This line is scarce above a mile broad in this county, and above the coal is a cold blue or yellow clay. Between this and the sand of the forest, is the strip before-mentioned of lime-stone. The greatest part of this whole district is inclosed. The following towns are in whole or part open:

Sutton in Ashfield, part open, about 4000 acres forest; an inclosure in agitation.

Kirkby, part forest.

Annesley, some forest.

Selston, part open, and some common.

All the rest are inclosed.

The farms in general are small, the occupation mixed, but much arable, as the land will not, either on the lime or coal, lie in pasture longer than the artificial grasses will last.

ROTATION OF CROPS.

THE courses of crops are,

On Limestone---1. fallow; 2. barley; 3. grass-seeds: or, 1. turnips; 2. barley; 3. seeds, for two years, seldom more; 4. pease or oats, &c.

On Coal Lands---1. fallow; 2. wheat, sown at Michaelmas, and seeds sown on it at spring; 3. seeds pastured or mown, seldom let to lie above one year, sometimes two or three:—or, 1. seeds broke up for wheat; 2. oats; sometimes rouncival pease, then fallow again: or, where the land suits it, 1. turnips; 2. barley or oats, with seeds, &c.

This land is very subject to throw out the wheat.

Mr. Chambers of Tibshelf, in Derbyshire, who occupies similar lands abutting on Notts, and whose practice is

 locked

followed by several intelligent farmers in
pastures the first year, dungs in the next
he next year, then breaks up at Michael-
r wheat or oats.

MANURES, &c.

FARM-YARD dung, twelve loads to the
allow.

nes ten quarters on fallow for wheat about
ps the earlier the better.*

---sometimes as a top dressing on seeds,
d in very thin about two quarters an acre.
nks the latter the best.

-Dung and lime, as above, sometimes with
Derbyshire, reckoned much the best, some-
gry lime of this country. Dove manure
Coal land, being hard to be got, which
pposes the best of all if it could be had.

rning---used pretty much both on lime-
ere the land has lain long, and the sward
nough not so much on coal as lime-stone.†

ws---not at all practised. Mr. Cham-
he water being impregnated with coal and
y prejudicial to grass, as appears on natu-

LIVE

s not lay on dung the same year it is made, except to

te of Portland's, at Bulwell Wood, is said to have
y burning, &c. Vide Appendix, No. XI. and XV.

LIVE STOCK.

Black Cattle.---ARE very indifferent, a mixture of long and short horned woodland beasts.

Sheep.---An improved breed has not been much attended to.

On the Limestone, pretty good ewes, fat, weigh from fifteen to sixteen pounds a quarter; wethers (if not mixed with the forest breed) up to twenty pounds; fed, about seven to the tod; wool inferior to the forest; last year about twenty-four shillings. The Coal land is much subject to rot sheep; Lime-stone much sounder.

Mr. Chambers has known hundreds cured of themselves on limestone land not eaten too bare; their livers healed again.

[For DRAINS, vide general article for the county.]

WOODS

ARE pretty considerable in this district, vide Appendix, No. XVII. *(e.)*

ARTICLES RELATING TO THE COUNTY IN GENERAL.

Drainage.---THE necessity of draining wet lands has of late years been much better understood and attended to, than formerly, and the rot amongst sheep of 1792 has alarmed, and almost every where brought forth exertion in this respect.

In

In the new inclosure bills, drains are ordered by the Commissioners, and provision made for their being properly kept up, which is more effectual than the old laws of sewers, of the neglect in the execution of which there is great complaint here, as well as in other counties. The drainage has been facilitated in several places by cutting the course of rivers and brooks straiter, particularly on the Smite, in the Vale of Belvoir.

Covered Drains---have been made in various places in different manners.

At Halloughton near Southwell, Mr. Pogson, tenant to Sir Richard Sutton, has done upwards of 200 acres, twenty-eight yards to the acre, as follows:—In meadow and pasture land, went two spade grafts, or two feet deep; then with another instrument of four inches wide, took out the soil of the drain made by the spade twelve inches deeper; covered it with the sods first dug out, if the ground was found strong enough to admit of it, otherwise put in some black thorns sufficient to bear the sods; afterwards filled up the whole of the drain to the surface with the soil taken out. This method has been pursued for several years past, and has perfectly answered. Expence per acre, including allowance for ale, &c. two shillings and sixpence.

At Norwood Park, Sir Richard Sutton did some, several years ago, with the difference of using, instead of black thorn, ling or heath, which may perhaps be preferable; as it is known to be incorruptible for ages in water, and the sharp hard ends of black thorn may sometimes gall the earth, and make it moulder into the drain, which the other will not.

At Gonalston, in Thurgarton hundred, the Rev. Mr. Clark has done a good deal, in the following masterly manner: Where there are boggy springy lands, at the foot of rising grounds, taking the lowest level, he pushes on a drain straight up to the hill, keeping it to the same level; so that it is

deeper and deeper from the surface as he advances; then a cross drain at top, at the same depth, to intercept the spr He then bores with an auger in both drains, but particu in the cross one, at about every five yards distance; s times as deep as twenty-two feet from the surface o ground. The springs boil up very strong to the botto the level, and run off. He then makes a wall of stone an edge on both sides, nine to twelve inches high; cov with flat stones; then lays broken stones and rushes to pr the mould falling in, and fills in with earth.

Mr. Breedon of Ruddington has drained much ir same manner as Mr. Clark.

Mr. Cook of Red Hill, in draining, has reared up in the drain, and covered with others; which he rec better than to leave a shoulder, which is apt to moulder

In the Coal land a good deal of covered draining is two and a half, or three feet deep; i. e. two or three deep with a broad spade, then the bottom taken out w narrow one, filling generally with small broken stones. Chambers, on similar land in Derbyshire, close adjoi walls most of his drains, using no bottom spade. He n the bottom two feet wide, then walls upon it, leavin inches in width, and twelve in depth, for the water; and on a stone for a coverer, which he thinks a preferable thod.

DISEASES OF CORN AND CATTLE.

Smut in Wheat.—THE following receipt for preventin smut in wheat, has been practised these twelve years by Mr. Wright of Collingham, near Newark; whe never had a smutty ear since that time; whereas befo land was very subject to the smut.

Take twenty-eight gallons of water, boil in a few gallons of it one pound of arsenick, then mix all together, and steep your wheat in it for six or eight hours; when taken out, mix well with fresh lime as usual. The wheat should be put through a riddle, and what swims at top skimmed off.

The Rot—is the most fatal disorder that affects sheep, and like the plague amongst mankind, in some years depopulates whole districts. It is more generally supposed to arise from the land being soaked with wet, or from a sudden flush of grass after a course of wet cold weather, than from any particular herbage eat by the sheep; though some persons ascribe it to different herbs, as a blue spiry grass called here prie grass, which is produced on cold wet land, as *ros solis* (the *drosea* of Linnæus) or sun-dew, and *pinguicula vulgaris*, or butter-wort, both growing in bogs. Dr. Withering, however, in his Botanical Arrangements, observes of the latter, that sheep will not touch it, being, as well as sun-dew, a very acrid plant. Dr. Withering adds, "but it may be a question whether the rot in sheep is so much owing to the vegetables in marshy grounds, as to a flat insect called a fluke, (in some counties a plaice) *fasciola hepatica*, which is found in these wet situations adhering to the stones and plants, and likewise in the livers and biliary ducts of sheep that are infected with the rot." It is certain, that this symptom is generally, if not always found in the last stage of the disease. It is scarce to be expected, that an absolute preventive, or cure, for this disorder should be found. The recipe stated in the Appendix, No. XIX. has been used with great success by Mr. William Saxby, late of Calk Hill, but now of Radley Farm, near Southwell; who has been in the practice of buying up several scores of rotten sheep at two shillings and sixpence a head, curing them and making them fat, keeping some of

them several years; their livers have been quite healed, but full of scars from the flukes which had been in them. He owns indeed, that notwithstanding this remedy, he lost many sheep in the last great rot; but they were on particularly wet land, from which he neglected to remove them when they took the medicine. He saved forty of his best ewes by moving them to a dry piece of ground when they were infected; when killed fat, their livers were found healed, but amazingly scarified from the flukes. I have added another receipt, said to have been of service in Leicestershire, and one found useful for the Water, another common disorder.

EFFECTS OF INCLOSURE.

THE value of lands has been every where raised by inclosure in a greater or less degree, in some very greatly. As to its effect on population, it is apparent, that there has been a great increase of it in the Forest inclosures, which afford much more employment than in their former state; nor is there any appearance of depopulation in the Clays, as a part has always been kept in tillage under an improved culture.

VARIOUS PRODUCTS.

Stone.—AT Mansfield is got a very good yellowish freestone, for the purposes of building and paving staddles, &c. and for cisterns and troughs, a coarser red kind. At Maplebeck, is a blueish stone for building, of which Newark bridge is built, which bleaches with the air to a tolerable white. At Beacon Hill, near Newark, is a blue stone for hearths, approaching to marble, which also burns to lime.

At Linby is a coarse paving stone, much used at Nottingham.

Coals—are got in the line described in the Coal and Limestone District, and conveyed by the Erwash and Nottingham canals, as well as by land carriage. The price of them is of late greatly raised at the pits, owing probably, in great measure, to the enlarged demand occasioned by the extension of the navigation into Leicestershire, and the supply by the opening of new pits, not yet corresponding with it, but that evil is beginning to remedy itself, as many are now going to be worked, and the price is already considerably fallen at Nottingham.

Lime---is made of a weak *kind, for land* at Kirkby, Skegby, Mansfield Wood-House, and Warsop, of a better more soapy kind at Hucknall. On Beacon Hill near Newark, of a good kind, from a blue stone.

At Linby is exceeding good *lime for building.*

Gypsum or Plaster---is got of an excellent kind, on Beacon Hill near Newark, and much used for plaster floors.—A good deal of it is sent to London in lumps for the colourmen, and of the white, ground, in hogsheads, for other uses. At Red Hill, at the junction of Trent and Soar, is a fine plaster quarry, from which Mr. Pelham, of Brocklesby in Lincolnshire, had columns of twenty feet high, in three pieces, used in his mausoleum. Lord Scarsdale also used the same in his house at Kedlester.

Plaster is found also at G. Markham, and the Wheatleys, and in many other places, amongst the red loam; but I do not know of its being got for sale any where else than near Newark and at Red Hill.

Marl.

Marl.—Marling land is not used in this county, n
know of any marl pit opened, though there is reason
lieve that there is much of it in the clay soil, as a red
ling stone and a blueish one, both found at Halam, Ki
ton, Ox on, Gedling, and in many other places, eff
strongly with the vitriolic acid; and if found in sufficier
there can be no doubt of the improvement of land fr
use of it. The blue is in narrower veins than the r
has a smell of sulphur when the acid makes it work.

N. B. I am since informed, that Mr. Green of Bar
has lately found good marl on his farm at Saxendale
Trent Bank District, and is now beginning to lay it
grass lands.

TENURE OF FARMS.

FARMS are mostly let at will; but there subsists t
fidence between landlord and tenants, that the latter g
consider their farm as an inheritance. With regard
stantial improvements, it is thought by many gentl
better method for the landlord to make them at his
pence, charging the tenant with a reasonable intere
to let leases, without which a tenant could not be exp
lay out any considerable sum. In the leases I have
are the usual covenants against cross cropping, brea
old sward, &c. but no provisions peculiar to this
Many freeholders occupy their own lands. *

SIZE OF FARMS.

THE farms may, in general, be said to be small,
ceeding 300 pounds per annum, and more being un

* Vide Appendix, No. XI.

year than above that sum, many (especially in the Clays) as low as twenty pounds, or under.

HUSBANDRY WAGES.

THE price of wages is so different in different parts, and so fluctuating, partly from local and temporary causes, as for instance, the great number of hands taken off to work at the numerous canals now on foot, that no satisfactory account can be given on these heads. It may, however, be said in general, that within these two or three years, day labour has risen from 1s. to 1s. 4d. and 1s. 6d. and work in proportion.

IMPLEMENTS OF HUSBANDRY.

THE plough generally used in this county, is the Dutch swing plough, which is found to answer very well, their gate or bottom being from two to two and a half feet, with a pair of hales or handles, at a proper height to hold.

In the Vale of Belvoir the two wheeled plough is used, which is made at Moor Green, near Nottingham. A one wheeled plough is used near Nottingham, south of Trent, with two horses. A one wheeled drill plough for turnips, is likewise made at Moor Green, which is much approved. The one horse plough (on the recommendation of Charles Chaplin, Esq. of Tathwell in Lincolnshire) has been tried with success at Averham, Farnsfield, and Norwood Park. It appears perfectly sufficient for all the ploughings, (particularly on light land) except breaking up a swarth, and makes great dispatch in the sowing of turnips. At the latter place it was used this spring, on a strong red loam to sow barley and oats, and from this trial appears to do well even in strong land that has been previously worked pretty fine.

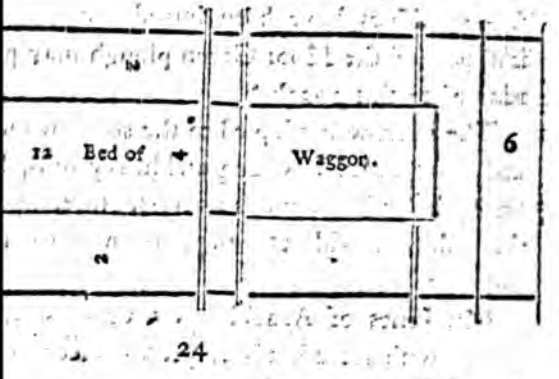
In consequence of an experiment made at Norwood Park, Feb. 7th last, before some good judges, eight of these ploughs have been bespoke. They are made at Wragby in Lincolnshire, by Mr. Watkinson. Some of Mr. Cook's drill machines have been introduced, and approved. The drill part of the Moor Green plough may probably be easily adapted to this pough.*

The harrow is adapted to the soil; in the light soils light and short tined, in strong and heavy soils, heavy and longer tined. Each harrow has its horse, three or four being sometimes drawn without being, as in other places, connected together.

Mr. Jones of Arnold has a curious threshing machine, which with some kinds of grains succeeds very well, but is expected to be brought to greater perfection.

Waggons and Carts.—The waggons of this county are of a middle size and height, the farmers have generally boards to fix on the top of their waggons, which they fasten with stays put into staples, and by these means they make them hold a larger quantity. For top loads or harvestings, they have raves or shelvings so called; these are in two parts, and put on at twice; they are very light, and when on the waggons are twenty-four feet long and eight feet wide, which gives plenty of room to load upon. They lie on the waggon as follows:

* For the Cultivator or Scuffler used by Mr. Bower, vide Appendix No. VI.



very numerous; on small farms two, and upon
four; carts being seldom used here in getting
Carts here are made to tilt or slot, which
ot their load at once.
, though at first sight insignificant implement
introduced, called a *turnip rope*, to relieve
s frequently happens) are choaked in eating
of stiff rope, hard wrought, about four feet
zz out at the lower end, like a mop. At the
oop to pull it up again, when thrust down
t.

TTLE USED IN HUSBANDRY.

E business of agriculture in this county is
ly done by horses: those generally made use
g sort of black cart horses. Such fine teams
as in many of the southern counties. Mr.
the great tythe farm at Arnold, about 800
all his work with nag horses, which he finds
re expedition on light land. It is become,

within these few years, the general custom in the sand land, and begins to be so in the clays, to do all the latter orders with two horses a-breast, without a driver.

Oxen---are so little used, as scarce to make an exception. Mr. Bower of West Drayton, however, cultivates a forest farm of 100 acres entirely with four oxen, and is very well satisfied with them; they work wholly on straw and grass, and do an acre a day in winter, and five roods in the spring. They are used two in the morning, and two in the afternoon. The Duke of Newcastle employs some beasts in Clumber Park, particularly in getting out his wood. Sir Gervase Clifton has a team of Devonshire oxen. Sir Richard Sutton, Mr. Stubbings of Holme Pierrepont, and Mr. Wilson of Shelford Manor, employ some, and perhaps some few other persons who have not come to my knowledge.

BUILDINGS.

FARM houses and offices are in general not very spacious, and in most parts of the country, *except in new inclosures*, * situate chiefly in the villages, and not contiguous to the land. Houses and barns generally, (except in the strip of country adjoining to Derbyshire, where there is plenty of stone, which is applied to that purpose) are of brick, and tiled, sometimes thatched. Poor cottages and barns, in the Clay Country, now and then of stud and mud; but new buildings of all sorts are universally of brick and tile. Ground floors are generally laid with stone or brick: chamber

* As a remarkable instance of this, Jonathan Acklam, Esq. of Wiseton, on the inclosure of Wiseton, Mattersey, Everton, Misson, and Scrooby, pursued the plan of placing new farms central to the respective grounds, and completed seven with large appurtenances, dove cotes, granaries, cow houses, &c. The same has been done more or less in other new inclosures.

ber floors almost always with plaster, which is a great preventive against fire. Excellent plaster is got at Beacon Hill near Newark, and is run at nine-pence per square yard, or six-pence a strike. There is generally a good fold yard, and in the Clays North of Trent, very frequently a large good dove-cote. It is the custom of this country to put corn mostly in ricks, often set on stone staddles, or brick pillars, about three or four feet high, with stone caps; sometimes on brick hovels, open on one side, with pillars, or timber frames, about eight feet high, which leaves underneath a good shelter for cattle, or for carts and waggons. This custom, besides being thought to keep the grain sweeter and freer from vermin, is a great saving in the barn room expected in southern counties. It is of late come much into use with good farmers, in building stables or cow houses, to leave a space parted off three or four yards in width, behind or between two stables, into which the hay seeds fall from the back of the rack, and are saved for use, called a fother room; the rack is upright in the stable, and inclined on the back side. In improved cow houses, the standing is made no longer than the cow herself. She stands on a kind of step, so that the dung falls down below her. Mr. Calvert of Darlton has built some in this manner, but it is more used in Yorkshire.

WATER CARRIAGE.

THERE is a great trade carried on in this county by water, by means of the river Trent, and the different canals. By the Trent are carried downwards, lead, copper, coals, and salt, from Cheshire, cheese, Staffordshire ware, corn, &c.

UPWARDS.

Raff or Norway timber, hemp, flax, iron, groceries, malt, corn, flints from Northfleet, near Gravesend, for the Staffordshire potteries.

By the Canal from Chesterfield---to Worksop and Retford, and to the Trent at Stockwith—

DOWNWARDS.

Coal, lead, Sleetly stone, lime and lime-stone, chirt-stone, for the glass manufactories, coarse earthen ware, cast metal goods and pig metal, oak timber and bark, and sail cloth.

UPWARDS.

Fir timber and deals, grain, malt, and flour, groceries, bar iron, and Cumberland ore, wines, spirits, and porter, hemp and flax, cotton-wool and yarn, Westmoreland slate, and various sorts of small package.

UPWARDS AND DOWNWARDS.

Bricks, tiles, hops, and candlewicks: other articles, however, bear but a small proportion to the coal, downwards; and the corn, groceries, foreign timber, and iron, upwards.

By the Erwash and Nottingham Canals---

DOWNWARDS.

Coals from the Nottinghamshire and Derbyshire pits.

UPWARDS.

Corn and malt for the consumption of the country at the head of these navigations, which is very populous, is carried up by the Erwash canal, and are likely to be so for the Nottingham, when completed.

Great advantage is expected from their junction with the Cromford canal, in bringing lime from Crich, and other places in Derbyshire.

The Grantham Canal---not yet finished, will supply the Vale of Belvoir with coal and lime (particularly the Crich lime) hitherto made very dear by a considerable *land carriage*.

ROADS.

THE roads of this county are of late years much improved; many parishes having learned from the example of the turnpikes to form them properly, and have them executed under an understanding surveyor. Gentlemen and considerable farmers having taken on them the office of surveyor, has also contributed to their improvement. They remain, however, bad in many places in the Clays, and particularly in the Coal District, where there is a great deal of heavy carriage. In the Forest District too much is sometimes left to nature, where a little expence would make them perfectly good. The most approved system of making new roads on clay or wet bottoms, is, first throwing the soil from the sides, leaving a groove in the middle for the materials, beginning with kid or brush wood plentifully, then stones and gravel: if the gravel is very sharp and good, there is no occasion to round the road. Even a concave surface is found to answer very well; but where the materials are tender, it may be better to round it a little, but not so much as is frequently done, which is often dangerous, and hurtful to the road, by obliging carriages to keep one track.

TRADES AND MANUFACTURES.

The Malting Business---is carried on to a great extent in this county, particularly at Nottingham, Newark, and Mansfield,

field, and in many other places. A great deal of malt is sent up by the Trent and the canals, into Derbyshire, Cheshire, and Lancashire. At Newark are great breweries, which vie with Burton upon Trent, in the trade to the Baltick and other parts. At Nottingham is a brewery, and another going to be established on an extensive plan.

The Stocking Trade---is the most anciently established manufacture in this county; the frame for knitting stockings having, it is said, been invented by one Lee of Calverton.* It occupies a great many hands at Nottingham, and the villages for some miles round; as also at Mansfield, Southwell, and other places in its neighbourhood. Many new works of different kinds have been lately erected, as follows: Many cotton mills worked by water, to prepare the thread for the Manchester manufacture, and for stockings, and other purposes, as at Gamston, Lowdham, Papplewick, Southwell, Newark, Fiskerton, Mansfield, and Basford. †

At Cuckney is a mill for combing wool, and another for spinning worstead, and one for polishing marble. At Arnold is a large woollen mill for both the former purposes: at Retford is a mill for combing woollen. These two are worked by steam. At Nottingham silk mills, worked by horses,

* Thoroton, in his Antiquities, says, page 207, that, "At Calverton was born William Lee, master of arts in Cambridge, and heir to a pretty freehold here, who, seeing a woman knit, invented a loom to knit, in which he or his brother James performed and exercised before Queen Elizabeth; and leaving it to —— Aston, his apprentice, went beyond the seas, and was thereby esteemed the author of that ingenious engine, wherewith they now weave silk and other stockings, &c. This —— Aston added something to his master's invention; he was some time a miller at Thoroton, nigh which place he was born."

† Vide Appendix, No. XXIII.

horses. At Mansfield is a great trade in stone. Artificial marble is likewise made, and a considerable thread manufacture carried on, as also of British lace. At Nottingham is a white lead work, a foundery for making cast iron ware out of the pigs brought from Colebrook Dale, a dying and bleaching trade, and a manufacture of British lace by frame work. At Sutton, in Ashfield, a considerable pottery of coarse red ware, for garden pots, &c. At Upton, near Southwell, is a starch manufactory. At Retford, a sail-cloth manufactory.

Effect of Manufactures.---It is a matter of concern to observe, that the manufactures, particularly that of stockings, whilst they increase the population, increase at the same time the burthen of the poor's rate on the occupiers of land, which may be ascribed to the lower manufacturers too frequently spending all their earnings, without looking forward to a time of old age and infirmity. The most obvious remedy for this evil appears to be the extension of the Friendly Societies, which have already met with the encouragement of parliament, or the making of some more comprehensive provision by the legislature, on the same principle.

IMPROVEMENTS SUGGESTED.

THERE appears to be a great opportunity of extending the improvements of water meadow in almost every part of the county, but particularly on the Forest side, where no less than five fine streams cross from west to east almost parallel to each other, and afterwards turn to the north, forming the river Idle.

The Rainworth water runs from near Newsted Park, to Inkersall Dam, and Rufford, and joins the Maun at Ollerton;

lerton; the Maun, from Mansfield, by Clipston and Edwinstow, to Ollerton.

The Meaden, by Budby, and through Thoresby Park, joining the Maun near Palethorp. From this junction the river is called the Idle.

The Wallin, through Welbeck Park, and after receiving the Poulter from Langwich and Cuckney, by Carberton, and through Clumber Park, into the Idle, near Elksley.

The Worksop river runs from Worksop by Scofton, Bilby, Blyth, Scrooby, into the Idle, at Bawtry. Two other rivers run southward.

The Lene, from Newsted Park, by Papplewick, Bulwell, Basford, and Lenton, into the Trent, by Nottingham Bridge. The Dover, or Dare Beck, from near Blidworth, by Oxton and Calverton, Eperston, and Lowdham, into the Trent, near Caythorp. In their course through the forest these rivers run mostly through boggy bottoms.

In the Clay District, N. of Trent, are the Dover Beck, the Greet, and many smaller nameless streams, which might probably be employed to this purpose.

In the Vale of Belvoir, the Devon, the Smite, and other smaller rills, seem to promise the same advantage.

In the Coal District, intelligent persons doubt whether watering might not be prejudicial to the land, from the pernicious quality of the coal and iron with which the waters are impregnated; but a trial of this might be desirable on a small scale. An impediment often arises to this improvement, from an intermixture of property, from which it may be impossible to bring the water on, or carry it off again, without cutting through, or injuring the land of a neighbour. But it is to be hoped, that mutual benefit, when understood, will induce contiguous proprietors to join in the work, and regulate their respective interests, as is seen in Wiltshire and Berkshire, where, through the whole course

of

of a river, for many miles together, there is a continuation of these watered meadows, each person being served with the water in turns. Another impediment arises from water courses below not being sufficiently scoured out to make an outfall, which may be remedied by a due execution of the laws of sewers.

PLANTING.

THERE are large tracts of forest land in rabbit warrens, or sheep walks, which are of so poor a nature, that it is doubtful how they would answer to be taken in for husbandry; but there is little doubt that they would be of more value if planted than in their present state. For dry high ground, I should advise plantations of fir, oak, Spanish chesnut, larch, beech, and birch, taking out the fir, beech, and birch, where they have nursed up the others. Ash do not do well on the sand of the forest.

For low bottoms (if not too wet) I should, from my own experience, recommend the red Huntingdonshire willow.*

Hedge-row Planting.—It is to be lamented, that in the new inclosures very little attention should have been paid to raising hedge-row timber, which is done at first with no more expence of fencing than the raising of the quick. There is, I believe, a general prejudice against trees in hedges, as being supposed to injure the land. Whatever may be the case, with regard to corn, which I apprehend to be much exaggerated, it does not appear to do any hurt to grass; and there cannot, in my opinion, be a better or more convenient method, for many purposes, than always to leave a head-land in grass, as may be

* For the manner of planting and managing them, vide Appendix, No. XI.

seen in many parts of Hertfordshire, under the name of hedge-greens. It is obvious, that a great quantity of timber may be raised in hedge-rows, which is better for various purposes, than what is raised in woods, particularly compass timber, as knees, crooks, &c. the most valuable pieces in ship building.

I believe I may venture to affirm, that trees so planted are likely in twenty-five to forty years, to equal the value of the land, whilst in their growth they have taken up no land from other purposes.

In Appendix, No. XXI. I have ventured to suggest a method of planting them to more advantage, and to raise a greater quantity than I have known practised.

Ponds in Dry Pastures.---It has been a matter of difficulty to make ponds hold water in places, where, from the dryness and heat of the soil, they are more peculiarly necessary for cattle. To effect this purpose, I know of no other better method than that contained in Appendix, No. X. (*b*)

I am happy in being able to say, that of late years a great spirit of improvement has arisen in this county, not only amongst gentlemen and considerable farmers, but also amongst the inferior ranks, who begin to have their eyes opened by example, and in many instances have been ready to leave the old beaten track, and adopt better practices in agriculture.

I am sensible, that in the execution of this business, which my zeal for the promotion of agriculture, and the solicitation of a friend, and not any confidence in my own abilities or judgment, induced me to undertake, I may have been guilty of many omissions, and perhaps inaccuracies, which I hope will be thought excusable, when the information was to be collected from many different quarters, and which I hope to see supplied and corrected by the knowledge of others.

I cannot leave the subject without expressing my sense of the liberality and openness of communication, which (except in the case of one or two individuals) I have experienced from the noble and other persons to whom I have applied for information, and to whom I beg leave to return my most sincere thanks.

AP-

APPENDIX

TO THE

AGRICULTURAL VIEW

OF

NOTTINGHAMSHIRE.

INDEX

APPENDIX.

No. I.

THE following account of the extent, jurisdiction, and officers of the Forest were communicated to me by Hayman Rooke, Esq. well known to the literary world.

The Forest of Sherwood is the only one that remains under the superintendance of the Chief Justice in Eyre North of Trent, or which now belongs to the Crown in that part of England.

In a survey of 1609, it is described as divided into three walks, called North Part, South and Middle Part.

North Part contains the towns of Carberton, Gleadthorpe, Warsop, with Nettleworth, Mansfield, Woodhouse, Clipstone, Rufford, and Edwinstow; the Hays of Birkland and Bilhagh, towns of Budby, Thoresby, Peverelthorp or Palethorp, and Ollerton.

Middle Part, town of Mansfield, Plesly Hill, Skegby, Sutton, Hucknall, Fulwood, part of Kirkby, Blidworth, Papplewick, Newsted, part of Linby and part of Annesley.

South Part, town of Nottingham, part of Wilford, with Radford, Sneinton, Colwick, Gedling, Stoke, Carleton, Burton, and Bulcote; Gunthorp, Caythorp, and Lowdham; Lambley, Arnold, Basford, Bulwell, Beskwood Park, Woodborough, Calverton, and Sauntesford Manor.

FOREST OFFICERS.

Lord Warden, Duke of Newcastle, } by letters patent from the Crown during pleasure.

Bowbearer and Ranger, Lord Byron, } by the Lord Warden during pleasure.

Four Verdurers elected by the Freeholders for life,

Sir Francis Molyneux, Bart. — Edward Thoroton Gould, Esq.
J. Litchfield, Esq. — William Sherbrooke, Esq.

The verdurers have each a tree out of the King's Hays of Birkland and] hagh, and two guineas to each Verdurer attending the inclosure of a break.

Steward, J. Gladwin, Esq.

Nine keepers, appointed by the verdurers during pleasure, having so many ferent walks.

The keepers have a salary of twenty shillings, paid by the Duke of Newca out of a fee farm rent from Nottingham Castle.

Two sworn woodwards for Sutton and Carlton. Thorney-Wood Chace branch of the forest. The Earl of Chesterfield is hereditary keeper by gran J. Stanhope, Esq. 42 Eliz. The wood and timber of the Crown are under care of the surveyor-general of the woods. His deputy in this forest is C Clarke, who has a fee tree yearly, and a salary of twenty pounds per annum of wood sales.

Forest towns, villages, hamlets, or lands belonging to them included in sand and gravel district.

Carberton, Gleadthorpe, Warsop, with Nettleworth, Mansfield, and Woodho Clipston, Rufford, and Edwinstow; Budby, Thoresby, Peverelthorp or Paleth Ollerton, part of Kirkby, part of Papplewick, Newsted, part of Nottingham, of Radford, part of Basford, part of Bulwell, part of Arnold, and part of Calver

No. II.

SKEGS appear to be the *avena stipiformis* of Linnæus, described by the Bo cal Society at Lichfield, in their translation of the System of Vegetables.

Panniculed, calyxes two flowered, awns twice as long as the seed, culm bran stipe form.

They are sown on the worst land: sometimes on a lea, sometimes turnips, often taken as a last crop. On bad land they may produce about quarters per acre, which are generally about two thirds of the price of oats. T answer to sow on good land, producing fourteen and fifteen quarters per The kernel is reckoned remarkable sweet good food for horses. They are s times threshed, sometimes cut in the straw. They are chiefly grown about berton, and will grow where nothing else will.

No. III.

tatement of the Cultivation, and other Improvements
CLUMBER PARK, NOTTINGHAMSHIRE, in the Year
93, belonging to His Grace the Duke of NEWCASTLE,
ntaining about 4,000 Acres.

OMMUNICATED BY MR. MARSON, MANAGER OF HIS GRACE'S IMPROVEMENTS.

IN TILLAGE.

	A.	R.	P.	A.	R.	P.
Wheat — —	67	1	29			
Rye — —	65	0	29			
Barley — —	76	1	23			
Oats — —	210	0	3			
Pease — —	5	2	0			
Turnips — —	195	2	0			
Buckwheat — —						
Total Tillage,				620	0	4

IN PASTURAGE.

Clover — —	75	3	1		
Grass for mowing and pasturing	1255	3	31		
Water Meadow — —	100	0	0		
Total in Pasturage,				1431	2 32
in sundry plantations — —				1848	1 4
in the lake and river below Hardwick				100	0 0

No. IV.

INROLLED WITH THE CLERK OF THE PEACE AT NEWARK.

Towns.	*A.*	*R.*	*P.*	*Award dated.*
B Everton, land inclosed - - -	1489	1	27	Sept. 7th, 1761.
T Carlton upon Trent - - -	852	3	3	May 10, 1766.
T Wilford - - - - -	1167	2	34	May 23, 1766.
T Lenton and Radford - - -	1219	3	29	January 9, 1768.
T Ruddington - - - -	2781	0	27	December 2, 1767.
B Carlton in Lindrick - - -	2530	3	27	October 30, 1768.
T Burton and Bulcoate - -	1174	1	23	November 21, 1769.
F Blidworth - - -	1508	0	32	April 5, 1770.
T Normanton upon Soar - -	1195	3	23	February 12, 1771.
L Hucknal Torkard - - -	1032	1	10	April 20, 1771.
T Stableford and Bramcote - -	968	1	19	January 18, 1772.
B Mattersey - - -	1720	0	28	March 16, 1773.
Ancient Inclosures -	637	0	26	
B Scaftworth - - - -	427	2	6	December 21, 1773.
T Sutton, St. Ann in Sutton Bonnington	1110	0	5	March 10, 1775.
L Gresley - - -	332	2	6	June 1, 1775.
B Misterton and Stockwith - -	4791	3	0	October 14, 1775.
B West Retford - - -	876	3	27	June 11, 1776.
Hickling - - -	2601	0	7	May 27, 1776.
T Sutton, St. Michael's in Sutton Bonnington - - - -	875	0	1	May 14, 1777.
T Ratcliff upon Trent - -	1500	0	0	January 25, 1790.
A Clayworth - - -	959	0	7	October 12, 1792.
Coddington - - -	1869	2	39	January 1761.
Hawksworth - - -	639	3	20	1761.
T Farndon - - -	1696	0	1	February 1769.
T North Muskham Holme and Bathley -	1649	3	26	October 23, 1773.
T Cromwell - - -	1342	1	23	November 24, 1773.
T Balderton - - -	3077	0	35	March 4, 1768.
V Scarrington and Asloeton - -	1996	0	16	1781.

INROLLED

INROLLED WITH THE CLERK OF THE PEACE AT SOUTHWELL.

Edingly and Halam, old inclosure -	1919	3	10	new	1365	0	3	March 21, 1781.
Blesly - - -	0	0	0	new	417	2	39	Feb. 29, 1781.
A Normanton, near Southwell, old inclosure	157	1	18	new	426	2	37	Feb. 16, 1776.
Cotemore and Radley, in Southwell, all waste land -					228	3	26	Aug. 6, 1774

FROM PRIVATE INFORMATION.

A Lambley, old inclosure 1554, common 25, copses 408, field 86, new 519, after 1791.
A and F Calverton, old inclosure 554, warren 57, field 1728, common 996, new 2139, 1780.
A Gedling, Carlton and Stoke, old inclosure 900, copses 901, meadow 345, new 2233, 1793.
T Farnfield, old inclosure wood, &c. 976, new 2713, after 1778.
F Eiksley 1326
F and A Arnold 1600 old, in half sand half clay, open field 500, 8-10th clay 1790 forest land 2700, one fourth clay, 50 spring wood, new 3050.

No. V.

PRIVATE INCLOSURES FROM THE FOREST AND BORDERS.

In Babworth.

Morton Grange,	Hon. R. Lumley Saviles,
Little Morton,	G. Mason, Esq.
Remainder of Babworth,	
Elyth Law Hill,	C. H. Mellish, Esq.
Eilby,	late Morgan Vanes, Esq.
Scofton,	Robert Sutton, Esq.
Crburton,	F. F. Foljambe, Esq.
Carberton, &c.	Duke of Portland, (600 planted) ab
Bilsthorp Commons,	Hon. R. Lumley Saviles
Bothamsell,	Duke of Newcastle,
Walesby Warren, in Haughton Warren,	Ditto

No. VI.

LETTER TO SIR RICHARD SUTTON, BART.

West Drayton, Feb. 1, 179

SIR,

I AM favoured with yours, and in answer inform you, that the hop pl beginning at the north end of the county are chiefly situated in the f parishes:

Barnby-Moor,	East Drayton,	Bothamsell,
Tilh,	East Markham,	Walesby,
Lound,	West Markham,	Willoughby,
Welham,	Milnton,	Kirton,
Ordsall,	Tuxford,	Bougl..on,

Eaton,	Egmanton,	Ollerton,
Gamstom,	Bevercoats,	Edwinstow,
Headon cum Upton,	Haughton,	Wellow,
Askham,	Elkesley,	Eakring,
Woodcoats,	Southwell,	South Markham,
Rufford,	Halam,	Laxton.

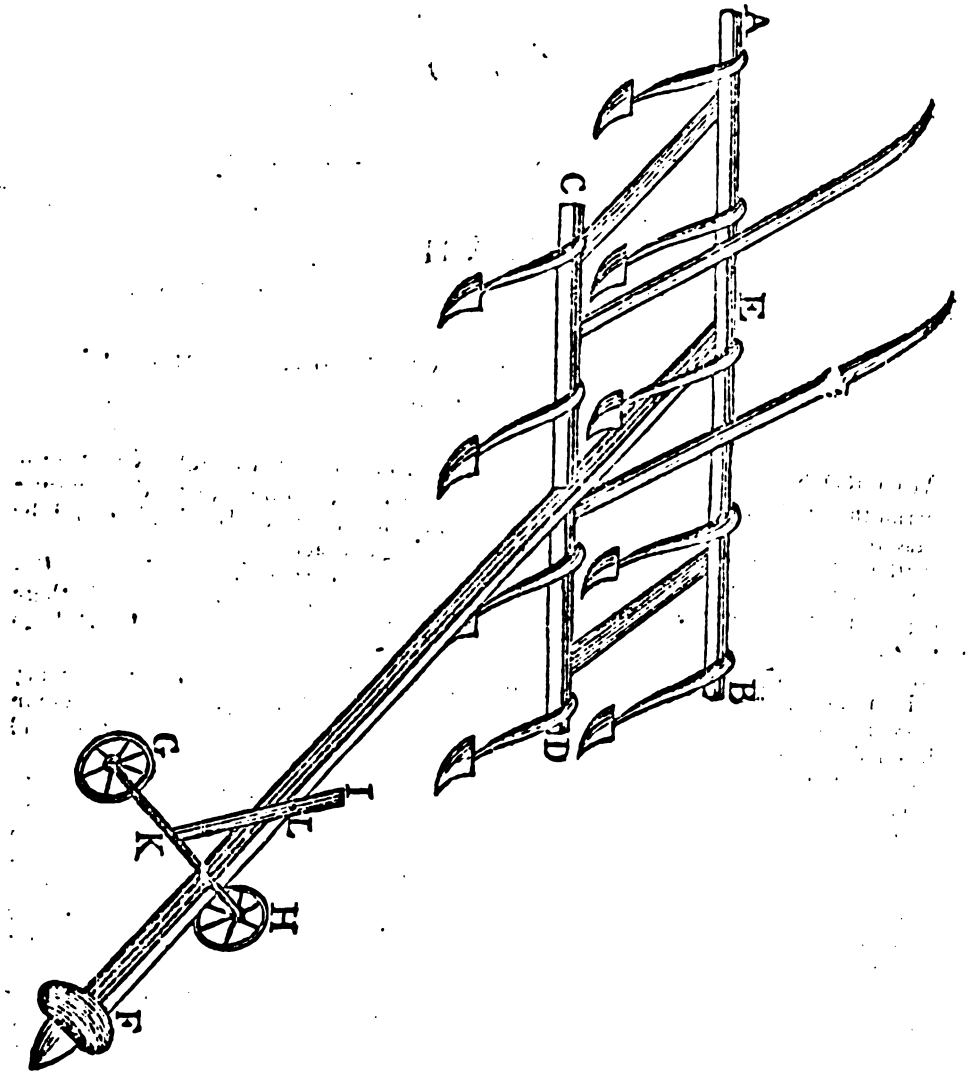
There may be some single plantations in some other townships, but these are the principal.

I am so bad a Draftsman, that I am quite ashamed to send you the inclosed draught of *the Cultivator*, but hope you will by the annexed description of the dimensions, be able to understand it. You see the teeth intersect, and as they are but 12 inches from each other, and by intersecting, the distance is reduced to 6 inches, and then the breadth of the shares being full 3 inches, reduces the intermediate space to so small a dimension that the whole of the ground is entirely broken up, and answers the purpose not only of ploughing, but harrowing likewise, without cutting the quick grass roots in two, which is an advantage that ploughing has not. It likewise, from the standing forward, and bend of the teeth, brings all the roots up to the top of the land, which is another advantage that cannot be had from the plough. The reduction of labour is another advantage that belongs to this instrument, as four horses and one man will do from six to seven acres per day in sand land. If any other information is wanting that is in my power to give, I shall always be happy to hear from you, and am with the greatest respect,

Sir,

Your most obedient humble servant,

W. BOWER.



From A to B the length of the first Bull, 4 feet 6 inches.
From C to D the length of the second Bull, 3 feet 9 inches.
From A to C 16 inches, teeth 2 feet long, and bent near the bottom for the share part to lie flat on the earth, and 1 foot from each other.
From E to F the lengh of the beam, 6 feet long.
From G to H the length of the iron axle-tree for the small wheels, 1 foot 6 inches.
From I to K the length of the iron that shifts through the beam and fastens with a screw at L, 2 feet.

No. VII.

SURVEYS OF THE HAYS OF BIRKLAND AND BILHAGH; COMMUNICATED BY HAYMAN ROOKE, ESQ.

ACCORDING to a late survey, 1790, Birkland and Bilhagh, which now remain the property of the Crown, contain 1487 acres, 2 roods, 37 perches, statute measure. The land being cleared of wood and inclosed, Birkland would be worth eight shillings, and Bilhagh twelve shillings an acre.

In a survey of 1609, were found 21,009 trees in Birkland, and 28,900 in Bilhagh; the trees in general were then past maturity. By a survey in 1686, there were 12,516 trees in Birkland, and 923 hollow and decayed ones. In Bilhagh 21,080, and 2797 hollow trees.

By a survey in 1790, there were in Birkland and Bilhagh together, 10,117 trees, at that time estimated at 17,147l. 15s. 4d. In the year 1609, there were in Birkland and Bilhagh, 49,909 trees; so that in seventy-seven years, to 1686, had been cut down 2593 trees.

There are now and then opportunities of knowing the ages of oaks almost to a certainty. In cutting down some trees in Birkland, letters have been found cut or stamped in the body of the tree, marking the king's reign, several of which I have in my possession. One piece of wood marked J. R. (James Rex) was given me by the woodman who cut the tree down in the year 1786. He said that the letters appeared to be a little above a foot within the tree, and about one foot from the centre; so that this oak must have been near six feet in circumference when the letters were cut. A tree of that size is judged to be about one hundred and twenty years growth. If we suppose the letters to be cut about the middle of the reign of James the First, it is 172 years to the year 1786, which added to 120, makes the tree 292 years old when it was cut down. The woodman likewise says, that the tree was perfectly sound, and had not arrived to its highest perfection. It was about twelve feet in circumference. I have been told that Jn. R. (John Rex) have been found cut in some of the oaks. One piece, said to be marked with John Rex, and a crown, I have in my possession; but it is not sufficiently made out to be inserted here as a fact, though the person from whom I had it assures me, from his having seen others more perfect, that it is marked with Jon Rex. Others have had C. R. and several have been marked with W. M. (William and Mary) with a crown.*

* Descriptions and Sketches of some remarkable Oaks in the Park at Welbeck, p. 16.

No. VIII.

ON THE METHOD OF PLANTING, AS PRACTISED AT CLUMBER DUKE OF NEWCASTLE, UNDER THE MANAGEMENT OF T. COMMUNICATED BY MR. MARSON, THE MANAGER OF HIS IMPROVEMENTS.

THE method in practice here, for the management of a sandy soil cov heath, whins, or furzes, &c. and which is intended for planting, is as f

The ground is first cleared by stubbing and burning the heath, &c. (if strong to be ploughed in); it is then sown with one or two successive spring corn, as oats and barley, and afterwards with turnip seed, the gro first thoroughly cleared of twitch and other weeds. The turnips are fed with sheep, and the ground is immediately double-trench ploughed from sixteen inches deep, if the soil admit of it. We then proceed to sow it with a keys, and hawthorn berries, and to harrow them twice over. The sar is afterwards planted with oaks, ash, beech, elms, birch, larches, and ot which you may occasionally have, from six to eighteen inches in height, exceed that size. Spanish chesnuts are then put into holes made wit from three to four inches in depth, and covered over.

In general we fill in our plantation with a various assortment of plants; as firs, pines, cedars, &c. besides Scotch firs and birch. The only a shelter for the young forest trees, but have a pleasing effect for twenty years, for their permanence of verdure, and variety of their folia are then taken out to give room for the oak, Spanish chesnut, &c. last process of our plantation.

For a more particular account of the rearing and managment of oaks, light soil, I beg leave to refer to the communications of the very inge Speechly, of Welbeck, which are inserted in Evelyn's Sylvia, published b page 90, first part, (note) which explain every thing that can be practic on this subject.

EXPLANATORY OBSERVATIONS ON THE ABOVE SYSTEM.

The quantities required for one acre, are nearly as follows:
Plants of different sorts, from six to eighteen inches, about two thou
Acorns, from four to six strikes.
Ash keys, four strikes.

Hawthorn berries, one ditto.
Spanish chesnuts, one ditto.

The ash keys and hawthorn berries are to be buried one year in beds or pots o
and, before they are sown in the plantations.

Six strikes of fine large acorns are supposed sufficient to sow one acre of ground
t one foot asunder.

The plants should be healthful, straight, and firmly set; not drawn up too luxu-
riantly, but raised in a soil of a similar quality and temperature to that wherein
they are intended to be planted. This is a very necessary caution, as they will
hence be much more likely to flourish, than if they should have been raised from a
richer soil or warmer situation. They should also be always transplanted from
the seed beds into fresh ones in the nursery, from four to six inches asunder.

If the heath can be ploughed in, the best time will be in autumn, as it will then
have the benefit of the winter fallow. It may be cross-ploughed in the spring,
and after having been repeatedly harrowed, may be burnt, and then sown.

With respect to the season for planting, I prefer the autumn for a dry sandy
soil, and the spring for meadow or low ground; and also for sowing the acorns
berries, keys, &c. At that time of the year they are not so liable to accidents by
vermin or frosts, as when they are sown earlier. When, however, planting and
sowing is intended to take place in the same piece, both must be completed a
the same season, that is, early in the spring. Precautions should be used to guard
them from crows, hares, rabbits, and other noxious animals, till the chesnuts
acorns, and plants, are sufficiently grown not to be exposed to such casualties.

If the land be hot and dry, you may sow some rye or oats, with acorns, and othe
seeds, but not so thick as to produce a regular crop.

I am never under any apprehension of planting too thick, for many reason
which it is needless to enumerate. When the season proves favourable, and there
are more live plants upon the ground than are necessary, they are thinned at
proper period, and made use of in the next year's plantation. This mode permit
me to appropriate the nursery to other uses.

About fifteen years after planting, the trees may serve for a variety o
purposes; such as posts, rails, pales; punchwood, for the collieries; cordwood
charcoal, hop-poles, brush heads, birch brooms, joists, rafters, &c. &c. This ob
servation is to be confined only to such trees as are cut down in the course of th
second or third thinning.

The plantations are in general inclosed with quick fences. These, independentl
of their ornament, not only secure the young trees from being injured by cattle
but prevent the sheep from depositing their dung, which in that case, as a manure
would be of no use to the farmer. It is well known, that, both in extreme hot o
in extreme cold weather, the sheep always have recourse to the woods for shelte

No. VIII.

PLANTATIONS UPON THE ESTATE OF HIS GRACE THE DUKE OF PORTL

FEW noblemen plant more than his Grace the Duke of Portland; and I may say without vanity, none with greater success. But as no man sl think of planting in the very extensive manner that we do, before he is pro with well stocked nurseries, it may not be amiss before I proceed further, to a short sketch of that necessary business; as also to inform you of the soi situation of our seat of planting. The greatest part of our plantations is o soil, which, in Nottinghamshire, is generally distinguished by the name of land. It is a continuation of hills and dales. In some places the hills are steep and high; but in general the ascents are easy and gentle.

The soil is composed of a mixture of sand and gravel; the hills abound most the latter, and the vallies with the former, as the smaller particles are by the and rains brought from time to time from the higher grounds to the lower. on the hilly grounds we make our plantations, which in time will make the of much greater value, on account of the shelter they will afford.

After his Grace has fixed on such a part of this forest land as he intends to planted, some well situated valley is chosen (as near the centre of the int plantations as may be) for the purpose of a nursery. If this valley is surro with hills on all sides but the south, so much the better.

After having allotted a piece of ground, consisting of as many acres as is venient for the purpose, it is fenced about in such a manner as to keep out a noxious animals. At either end of the nursery are large boarded gates, as walk down the middle, wide enough to admit carriages through, which w exceedingly convenient when we remove the young trees from thence plantations. After the fence is completed the whole is trenched, (excep walk in the middle) about twenty inches deep, which work may be done for 3l. 10s. or 4l. per acre, according as the land is more or less gravelly. This is best done in the spring, when the planting season is over. If after the tren two or three chaldron of lime be laid on an acre, the land will produces an exc crop either of cabbages or turnips, which being eaten off by sheep in autumn leave the land in fine order for all sorts of tree seeds: but as the oak is the s tree we cultivate in general, I shall confine myself particularly to our p method of raising and managing that most valuable species. In the autumn the cabbage or turnips are eaten off, the ground will require nothing more common digging. So soon as the acorns fall, after being provided with a quantity, we sow them in the following manner: Draw drills with a hoe, same manner as is practised for pease, and sow the acorns therein so thi nearly to touch each other, and leave the space of one foot between row an

and between every fifth row two feet for the alleys. While the acorns are in th ground, great care must be taken to keep them from vermin, which would ver often make great havock among the beds, if not timely prevented. Let th caution serve for most other sorts of tree seeds.

After the acorns are come up, the beds will require only to be kept clean fro weeds, till they want thinning; and as the plants frequently grow more in one w season, where the soil is tolerably good, than in two dry ones, where the soil is ir different, the time for doing this is best ascertained by observing when the tops the rows meet. Our rule is to thin them then, which we do by taking away on row on each side the middlemost, which leaves the remaining three rows the sam distance apart as the breadth of the alleys. In taking up these rows we ought t be anxiously careful neither to injure the roots of the plants removed; nor those left on each side. The rest of the young oaks being now left in rows at two fe apart, we let them again stand till their tops meet, then take up every other ro and leave the rest in rows four feet asunder, till they arrive to the height of abou five feet; which is full as large a size as ever we wish to plant. In taking up th two last sizes, our method is to dig a trench at the end of each row, full two fe deep, then undermine the plants and let them fall into the trench with their roo entire; and here let me observe, that much, very much, of their future succe depends on this point of their being well taken up. I declare that I should for greater hopes from one hundred plants well taken up and planted, than from t times that number taken up and planted in a random manner; besides, the loss the plants makes the worst method the most expensive. But before I leave th account of our method of raising oaks, I shall just beg leave to observe, that we a not very particular in the choice of acorns: in my own opinion, it matters not fro what sort of tree the acorns are gathered, provided they are good; for althou there seems to be a variety of the English oak, in respect to the form of the leaf a fruit, also their coming into leaf at different seasons, with some other marks distinction; yet I am of an opinion that they will all make good timber trees, properly managed. It is natural to suppose a tree will grow low and spreading a hedge row; on the contrary, it is very improbable that many should grow so a thick wood, where in general they draw one another up straight and tall: and have observed, that the same distinctions hold good amongst our large timber-tre in the woods, as in the low spreading oaks in the hedge-row.

Though I have not as yet taken notice of any other sort of tree but the oak, yet have a great regard for, and raise great quantities of beech, larch, Spanish chesn Weymouth pine, and all sorts of firs, the Scotch excepted, as well as many oth kinds, by way of thickening the plantations, while young; among which the bir has hitherto been in the greatest estimation, it being a quick growing tree, taking the lead of most other sorts on our poor forest-hills: and as we have an exhaustible spring of them in the woods, where they rise of themselves in abu dance from seed, we at all times plant them plentifully, of different sizes. As the elm and ash, we plant but few of them on the forest, though we raise gr quantities of them both; but particularly the ash, which being an useful wo (but a bad neighbour among the oaks) we plant in places apart by itself. shall dismiss this subject concerning the management of our nurseries, af saying a word or two relating to pruning. We go over the whole of the you

tr

trees in the nursery every winter, but in this we do little more than shorten the strong side shoots, and take off one of all such as have double heads.

Having thus pointed out the mode of forming and managing our nurseries, I shall now proceed to the plantations. At first beginning, the size of the plantations must be in proportion to the stock of young trees in the nursery; for to undertake to plant more ground than we have young trees to go through with, for thick plantations would turn to poor account on our forest hills, we always plant thick, as well at sow plentifully at the same time, provided it be a season in which acorns can be had, so that all our plantations answer in a few years as nurseries to succeeding plantations.

As to the form of the plantations they are very irregular. We sometimes follow a chain of hills to a very great distance, so that what we plant in one season, which perhaps in sixty, eighty, and sometimes one hundred acres, is no more than a part of one great design.

If the ground intended to be planted, has not already been got into order for that purpose, it should be fenced about at least twelve months before it is wanted to plant on, and immediately got into order for a crop of turnips; two chaldrons of lime being laid on an acre, will be of great service, as it will not only be a means of procuring a better crop of turnips, but will bind the land afterwards, and make it fall heavy, which is of great use when it comes to be planted, as some of the forest land is so exceedingly light, as to be liable to be blown from the roots of the young trees after planting: therefore we find it to be in the best order for planting, about two years after it has been ploughed up from pasture, before the turf is too far gone to a state of decay. It will be necessary to have a part of the turnips eaten off soon in the autumn, in order to get the ground into readiness for early planting, for we find the forward planting generally succeeds the best.

After the turnips are eaten off, we plough the ground with a double furrow trenching plough, made for that purpose, which, drawn by six horses, turns up the ground completely to the depth of 12 or 13 inches. This deep ploughing is of great service to the plants at first, and also saves a great deal of trouble in making the holes. After the ploughing is finished, we divide the ground into quarters, for the planting by ridings. It will be a difficult matter to describe the laying out the ground for this purpose, especially where there is such a variety of land as we have on the forest; much depends on the taste of the person employed in this office. Between the hills, towards the outsides of the plantions, we frequently leave the ridings from sixty to one hundred yards in breadth, and contract them towards the middle of the woods, to the breadth of ten or twelve yards; and on the tops of the hills, where there are plains, we frequently leave lawns of an acre or two, which makes a pleasing variety. In some of them we plant the cedar of Libanus at good distances, so as to form irregular groves, and this sort of tree seems to thrive to admiration on the forest-land. On the outsides of the woods, next to the ridings, we plant ever-greens, as hollies, laurels, yew, junipers, &c. and these we dispose of in patches; sometimes the several sorts entire, at other times we intermix them for variety, but not so as to make a regular screen or edging. Our design, in the distribution of these plants, is to make the outsides of the woods appear as if scalloped with ever-greens, intermixed sometimes with rare trees, as the *liriodendron tulipifera*, the Virginian tulip tree, &c.

After

After the ground is laid out into quarters for planting, we assign certain parts to
ch, larch, Spanish chesnuts, &c. these we plant in irregular patches here and
re, throughout the plantations, which, when the trees are in leaf, have the most
asing effect, on account of the diversity of shades; especially in such parts of
forest where, four, five, and sometimes more of the large hill points meet in the
e valley, and tend as it were to the same center. After these patches are
nted, or marked out for that purpose, we then proceed to the planting in ge-
l. We always begin with planting the largest young trees of every sort, and
our work with those of the smallest size: were we to proceed otherwise, the
king a hole for the larger sized tree, after the small ones are thick planted,
ld cause the greatest confusion. Birch is generally the sort of tree we make our
inning with, which we find will bear to be removed with great safety, at the
ght of six or seven feet, though we commonly plant rather under, than at that
. This sort of tree we are generally supplied with from our plantations, of five
ix years growth. But before I proceed to the taking them up, it will be proper
nform you, that in the planting season, we divide our hands into four classes,
ch we term takers-up, pruners, carriers, and planters, and here I shall describe
several methods of doing this work. First, in taking up we have the same
to take up with good roots in the plantations, as was recommended in the nur-
, though we cannot pursue the same method; but in both places, so soon as
plants are taken up, we bed them in the ground, in the following manner: Dig
nch at least fifteen inches deep, and set the young trees therein, with their tops
nt, covering their roots well as we go along, and almost half way up the stem
he plants, with the earth that comes out of a second trench, which we fill in the
manner, and so proceed on, till we have a load, more or less, in a heap, as may
convenient to the place from whence they were taken. In our light soil the
ble is but little, and we always have our plants secure, both from their roots
ing, and their suffering by frost. We have a low wheeled waggon to carry them
n the heaps, where they are bedded, to the pruners, and generally take two
ds every other day: when they arrive, the planters, pruners, &c. all assist to
them there, in the same manner as before described. We have a portable shed
the pruners to work under, which is also convenient for the rest of the work
ple to take shelter under in stormy weather. From the above heaps, the plants
aken only so fast as they are wanted for pruning, which work we thus perform:
off all the branches close to the stem, to about half the height of the plant,
tening the rest of the top to a conical form, in proportion to the size of the
t, and in pruning of the roots we only cut off the extreme parts that have been
sed by the taking up, or such as have been damaged by accident, wishing at all
s to plant with as much root as can be had.

s soon as they are pruned, they are taken to the planters by the carriers, who
generally a set of boys, with some of the worst of the labourers: the planters
n pairs; one makes the holes, and the other sets and treads the plants fast,
ch work they commonly do by turns. In making of the holes, we always
care to throw out all the bad soil that comes from the bottom: if the plant-
e on the side of a hill, we lay the bad soil on the lower side of the hole, so as
m a kind of bason; for without this care our plants would lose the advantage

of such rains as fall hastily. We at all times make the holes sufficient which is done with great ease after our deep ploughing.

Before we set the plant, we throw a few spadefuls of the top soil into t setting the plant thereon with its top rather inclining to the west; then fi hole with the best top soil, taking care that it closes well with the roo ing no part hollow: when the hole is well filled up, one of the planter and fastens the tree firmly with his feet, while his partner proceeds to n next hole.

The fastening a tree well is a material article in planting: for if it comes loose, the continual motion which the wind occasions, is sure to de fibres as fast as they are produced, which must end in the destruction of t if not prevented. It is to guard against this inconveniency, that we tak much of the top, as has been described in the article of pruning. V about three or four hundred birches of the large size on an acre, and ne same number of the first sized oaks; we also plant here and there a beec Spanish chesnut, &c. exclusive of the patches of the said sorts of tree planted. We then proceed to plant plentifully of the lesser and second size and last of all, a great number of the small birches, which are procured woods at about three shillings or three shillings and six-pence per th these we remove to succeeding plantations after five or six years. Of th sizes of the different kinds of trees, we generally plant upwards of 2000 upon an acre of land, all in an irregular manner. After the planting is fini then sow the acorns (provided it be a season they can be had) all over the tion, except amongst the beech, larch, &c. In the aforesaid patches, gr should be taken to preserve the acorns intended for this purpose, as very subject to sprout, especially soon after gathering; the best method i them thin in a dry airy place, and give them frequent turnings. We so acorns in short drills of about a foot in length, which work is done very by two men, one with the acorns, the other with a hoe, for the purpose of the drills and covering the seed. We are of opinion, that the plants produc these acorns, will at last make the best trees; however, I will not preten how that may be, as the oaks transplanted small, grow equally well for a of years. But it is proable that a tree with its tap root undisturbed, ma end grow to a much larger size. After the whole is finished to a conveni tance round the pruners, we then remove their shed to a second station, a proceed in the like manner, and so on till the whole be finished. It would to get the planting done by the end of February, especially for the tree deciduous kind; but from the disappointments we meet with, occasione weather, we are sometimes detained to a later season. I have several tim trial of twelve or fourteen kinds of American oaks sent over to his Grace quantities. I sowed them in the nursery, and also in the best and most s part of the plantations. In both places they come up very plentifully, bu find that several of the sorts will not stand the severity of our winters, a that do make so small a progress as to promise no other encouragement th kept as curiosities. Towards the end of April, when the ground is moist be of great service to go over the whole plantations, and fasten all such

are become loose since their planting. After this, nothing more will be required till the month of June, when we again go over the whole with hoes, cutting off only the tall growing weeds; for the sooner the ground gets covered with grass, in our light soil, so much the better. I own there is something slovenly in the appearance of this method, and on some lands I would recommend keeping the ground clean hoed for some time at first; as also planting in rows, which in that case would be necessary. More than once I have tried this method on our forest hills, and always found after every hoeing that the soil was taken away by the succeeding winds into the valleys. Besides this incovenience, the reflection of our sandy soil is so very great, that we find the plants stand a dry season much better in our present method, than in the former. And whoever fancies that grass will destroy and choak seedling oaks, will, after a few years trial, find himself agreeably mistaken: I have even recommended the sowing the poorer parts of the hills with furze or whin seed, as soon as they are planted. We have sometimes permitted the furze to grow in the plantations, by way of shelter for the game, which though it seems to choak and overgrow the oaks for some time, yet after a few years we commonly find the best plants in the strongest beds of whins. This shews how acceptable shelter is to the oak whilst young, and experience shews us, that the oak would make but a slow progress on the forest hills for a number of years at the first, were it not for some kind nurses, and the birch seems to answer that purpose best, as I have already observed. The several sorts of fir trees, from appearance, seem to promise a great shelter; but on the forest land they do not grow so fast as the former, and what is worse, the oak will not thrive under them, as they do immediately under the birch. Where a plantation is on a plain, a screen of firs for its boundaries is of singular use, but the situation of the forest land denies us this advantage. We continue to cut down the tall growing weeds two or three times the first summer, and perhaps once the next, or second season after planting; which is all we do in respect to cleansing. The next winter after planting we fill up the places with fresh plants where they have miscarried, after which there is little to be done till about the fourth or fifth year, by which time the small sized birch and seedling oaks will be grown to a proper size for transplanting. In the thinning of these, due care must be had not to take too many away in one season, but being properly managed, there will be a supply of plants for at least half a dozen years to come. About the same time that the lesser birch wants thinning, the large ones will require to have their lower branches taken off, so as to keep them from injuring the oaks, and this is the first profit of our plantations, the birch wood being readily bought up by the broom-makers. This pruning we continue as often as required, till the birches are grown to a sufficient size to make rails for fencing; we then cut them down to make room for their betters. By this time the oaks will be grown to the height of twelve or fourteen feet, when they draw themselves up exceedingly fast. Each plant seems as it were in a state of strife with its neighbour, and in a strict sense they are so, and on no other terms than life for life, and he whose fate it is once to be over-topped, is soon after compelled to give up the contest for ever.

After the birches are cut down, there is nothing more to do but thinning the oaks, from time to time, as may be required, and cutting off their dead branches

No. X.

oods and Plantations in the District of the Forest and Borders, the greater Part within thirty Years.

		Acres.
rtin Woods	Duke of Newcastle's (oak spring, few poles good) timber getting up	190
ttersey Woods	Jonathan Acklem, Esq. and others	50
rksop Manor	Duke of Norfolk's	781
lbeck Park	Duke of Portland's No. X. (*a.*) (*b.*)	near 400
berton, &c.	Ditto	about 600
mber Park	Duke of Newcastle's	1848
ley Head, Bothamsell, &c.	in this district, do. vid. No. X. (*a.*)	319
rth, &c.	Charles Mellish, Esq. chiefly fir	between 300 and 400
loy and Farworth	Lord V. Galway	126
ston	Robert Sutton, Esq. about 60 fir, some of old standing, very large, the rest oak and beech	about 200
berton	F. F. Foljambe, Esq. vid. No. X. (*c.*)	184
fford, &c.	Hon. R. Lumley Savile (in this district) vide No. X. (*e.*)	491
oresby, &c.	Cha. Pierrepont, Esq. vid. No. X. (*d.*)	981
seton	Jonathan Acklem, Esq.	25
rlton, in Lindrick	Robert Ramsden, Esq. upon strong soil, and bog earth, oak, Spanish chesnut, and ash	148
	Forest plantations	48
Ditto	Charles Mellish, Esq. vid. No. X. (*f.*)	154
Ditto	Taylor and Wollaston White, Esq.	107
Ditto	Mr. Joseph Cowlishaw	15
allingwells	Taylor White, Esq. vid. No. X. (*g.*)	28
nby and Papplewick	Right Hon. Fred. Montagu oak, ash, elm, &c. 40 acres in preparation.	34
rnsfield	Sir Rich. Sutton's	17

here are besides these a number of dispersed clumps, and plantations of ller extent.

No. X. (*a*.)

An Account of his Grace the Duke of NEWCASTLE's Ash Pla and a Valuation of the Lands before they were planted

COMMUNICATED BY WILLIAM MASON, ESQ.

	A.	R.	P.	Value per Acre. s.	d.
HAUGHTON.					
Bog Close, late George Padby	10	0	22	8	0
Do. late Dewick	20	0	34	2	0
Great Kennel in Dewick's bogs	3	2	0	7	0
Little Kennel, in do.	2	0	0	5	0
Dobson Hopyard	1	0	0	10	0
Gosling Carr	8	1	37	5	0
Crow Park	5	2	0	9	0
Decoy Plantation, including the banks about Fat Close Ponds	7	2	0	15	0
Cross Close Plantation	3	2	0	12	0
Bog ground	61	3	13		
BEVERCOTES.					
Farey's Plantation	51	1	0	8	0
Clay ground					
WALESBY.					
Some pieces of land laid to Bevercotes wood	1	0	27	12	0
A piece of land laid to Nichhaghbush wood	1	2	32	10	0
Clay ground	2	3	19		

	A.	R.	P.	Value per Acre. s.	d.	Yearly Value. £.	s.	d.
West Drayton.								
School-house Close Plantation	3	0	0	8	0	1	4	0
Bog ground.								
Gamston.								
Land adjoining the wood	2	2	0	5	0	0	12	6
Do. upon the common	5	0	0	10	0	2	10	0
Clay ground	7	2	0			3	2	6
In Bothamsell and Elksley.								
In Patmon	41	0	0	5	0	10	5	0
Crookford	14	0	0	5	0	3	10	0
In Elksley hop-yards by the fish-pond below Elksley wood	0	2	0	10	0	0	5	0
Bog ground	55	2	0			14	0	0
Ash Plantations collected.								
In Haughton	61	3	13	0	0	20	12	0
Bevercotes	51	1	0	0	0	20	10	0
Walesby	2	8	19	0	0	1	11	0
West Drayton	3	0	0	0	0	1	4	0
Gamston	7	2	0	0	0	3	2	6
Bothamsell and Elksley	55	2	0	0	0	14	0	0
	181	3	32			60	19	6
The above 180 acres, now planted, are worth upon a moderate calculation, 40s. an acre,	180	0	0	40	0	360	0	0

The expence of planting the above 180 acres, at 15l. an acre, amounts to 2,700l. for which his Grace will have an additional rent of 300l. a year.

Planta-

Plantations of Oak.

	A.
.... Ormand's hill at Gamston	2
In Haughton park, by Elksley wood	10
In Walesby warren, by Gosling Carr	1
	13

Other Plantations.

In Haughton				
In Richard Rawson's warren	1	0	0	
At Haughton chapel	1	0	0	
In Park meadows	2	2	0	
				4

In Bothamsell.

In Peck's farm, two plantations	1	0	0	
In Dewick's farm, one do.	3	2	0	
In Moss's farm, Broom plantation	1	2	36	
Border, between Moss and Mr. Bower	5	1	32	
Fivethorns plantation	0	3	0	
In Wood's farm	2	2	0	
In Hunt's	0	2	0	
In Mrs. Padhy's	4	0	0	
Hill above Ousedale, from Padhy's watering-place, to Normanton coach-road gate	16	3	5	
				38

In Normanton.

Border, from the coach-road gate, by Mr. Bower's farm, to the house	16	2	2	
From the stack-yard, along the west road, down to the white gate	7	2	8	
Below the above white gate, next the bottoms	11	3	34	
Large round clump in the low westermost piece	7	0	24	
Three small rounds in the piece east of the above	3	0	35	
South and east side of the above piece	7	2	20	
Kennel plantation in the rye piece	3	1	0	
Small border south of the lane	1	1	16	
Some other pieces of planting, suppose	10	0	0	
				68

	A.	R.	P.
Brought over	68	2	19
OTHER PIECES TAKEN IN TO BE PLANTED.			
piece	8	2	32
ner	15	0	8
ner	43	2	10
	72	1	10
ft as above, it being included in the above three ces	10	0	0
	62	1	10
head	139	0	36
ft for the six avenues, suppose six acres each	36	0	0
			103 0 36
			214 2 8

B. All these plantations, amounting to 419 acres 1 rood, have been made n twenty years.

No. X. (*b.*)

SIR, *Welbeck, Feb.* 1, 1794.

f the Duke of Portland's direction I have the honour to acquaint you, that ncultivated lands about this place, which have been improved by agriculture planting within the last twenty-five years, amount to between 2000 and acres, of which number about one fourth consists in plantations; but as ne plantation resembles another in size, any more than in form, it would re- a larger portion of time, than it seems can be admitted, to ascertain the tity with greater accuracy.

ne most approved method of making ponds or artificial pools in Derbyshire — ter removing the earth and forming a proper bason, take a quantity of lime, s of lime will answer the same purpose) and spread the same over the surface, about five inches thick; upon this bed of lime lay a coat of *well*

tempered clay, eight inches thick: this must be beat down extremely we wood hammers to prevent the clay from cracking. Upon the top of th lay a second coat of lime the same thickness as the first. The whole paved or pitched with small stones to prevent the cattle from injuring t terials of the pond. The clay will naturally hold up the water, and the lin vents the worm from striking upwards, or penetrating downwards to the clay.

I am, Sir,

Your most obedient humble Servant,

W. GO

No. X. (*c.*)

SIR RICHARD,

Rufford, Jan. 28, 1794.

ACCORDING to my promise, I send you the number of acres of the R. Lumley Savile's woods and plantations, which is the best account h but don't pretend to say it is exact, for want of surveys of part of them. also sent you some observations about the woods, and some other things.

Part of these are oak woods; the rest are oaks, and planted with ashes fo poles.

	Acres.
Wellow Park, and Birkhill	266
Egmanton wood	100
Eakring Brail	52
Lound wood in Rufford	24
The rest of the woods in the liberty of Rufford	200
Bilsthorp woods	22
Worney wood	35
Oak plantations in Rufford	50
Pittance Park plantation in do. part oak and the rest firs	218
Rufford fir plantations	50
Bilsthorp ditto	50
Ollerton hills ditto	23
	1090

Woods require great attention to make them profitable. In the first mentioned woods, which are oak timber, and young oaks, they have been thinned, and most other trees cut down to make room for the oaks, where they were likely to make good trees. They have been thinned by degres, which draws them up high enough, and gives them room to thicken. There are a few Spanish (or the best) chesnut trees, which is a quick growing wood, and grows tall and straight; from experiments made about twenty-five years ago, it is found to be excellent wood, much resembling oak, both in colour and quality.

In these woods, which are oaks, &c. and hop-poles, they are cut about every twenty years, leaving the small oaks, and here and there an ash, elm, or beech, &c. The largest oaks, worth about three pound and upwards, are taken down; also all the crooked bad ones. The hop poles are cut off neatly, and the year following the vacant places filled up with ashes; the crooked shoots are pruned off, and any small bad oaks damaged with falling cut down. Great care is taken to keep cattle out of these woods.

In the oak plantations the land was fallowed, and the greatest part of it sown with acorns about forty-four years ago. Some of them were sown in drills, and ploughed betwixt, which answers the best. The trees were pruned and thinned about twenty years ago, and are now nearly ready for thinning again. These oaks are now about twenty feet long, are from twelve to twenty-four inches in girth, and are thriving oaks. Some oaks were planted at that time, but there is little difference betwixt those planted and that part sown with acorns; if there be any difference those raised from acorns are the best. Two extremes ought to be avoided; not to thin them too much, till they have grown a sufficient height, nor leave them too thick to kill one another.

A considerable part, Sir, of those plantations were planted with firs by the late Sir George Savile, Bart. at the same time the acorns were sown, viz. about forty-four years ago. These firs have made great improvement. Larch is the quickest growing wood of all firs, and is the most useful. Scotch spruce and silver fir seem to be the next. Spruce grows more slowly than any of them. The larch now measure from thirty to fifty feet long, and from twelve to forty-eight inches in girth. The Scotch are from twenty to thirty feet long, and are from twelve to thirty-two inches in girth. They were planted rather shallow, were pruned and thinned for hop-poles, when about twenty-five years old; at thirty were fit for fencing, and now at forty-four years old they are fit for building timber, fencing stuff, and some of them boards. From experiments made of some older firs it is found, that larch is the best of them all for enduring, especially in wet. The others will last very long if kept dry. Some of them were planted in tribes, which seem to answer the best. Firs ought always to be planted by themselves, as they are apt to kill most other trees near them. All firs ought to be felled in summer, because they are then fullest of turpentine, and heaviest. If firs are suffered to grow too thick till they are a great height, they will die in patches, after they have exhausted the ground; and if they are thinned too soon, they will never rise a great height. Upon the whole, firs are likely to prove of more value to this country than was expected some years ago.

The late Sir George Savile inclosed the following lands since the year 17

	ACRES.
Ollerton forest, about	500
Bilsthorp clay fields	100
Ditto commons	280
Morton Grange forest	1080

There are yet open fields at Eakring, Ompton, Wellow, Laxton, Egm Walesby, and Kirton.

Rufford is now almost the only uncultivated forest Mr. Savile has i county.

Improvements, Sir, in husbandry are best promoted by example; for o pital manager living in a neighbourhood is, or might be a benefit to all nea

The drill husbandry for beans and pease is particularly useful, as it prepar land for wheat.

If the same attention was paid to the breeding of horses, beasts and pigs is paid to the breeding of sheep, it would be of great service to this country

Growing carrots for horses, and potatoes for milch cows (which produce butter) are among the newest improvements here. Potatoes are of the g use, cheap and wholesome: the poor have never suffered so much from wan they have been so generally cultivated.

I am, Sir Richard,
With the greatest respect,
Your most obedient humble servant,

Sir Richard Sutton, Bart. JOHN PARKINS

No. X. (*d.*)

Whitemoor, January 21, 1

SIR,

HEREWITH you will receive a copy of Mr. Calvert's measure of th rent plantations in and about Thoresby Park, returned to me yesterday. collected into columns the best and the worst sort of trees, and the num acres of each, which I should think would be sufficient, rather than to ins names of such a numerous quantity of clumps.

I forgot to mention in my paper respecting Mr. Pierrepont's spring woo we have adopted a plan of filling up every fall, the following spring after it

with ash plants, all the vacant places; and I think it a good method, where a
young ash tree was left the fall before (for a husbandry pole) and bears keys
leave it the second fall, and if you see occasion the third, that the wind m
disperse the keys, and be a means of replenishing the woods with ash plants w
out any expence.

I am, Sir,

Your obedient servant,

W. PICKI

Plantations in and about THORESBY PARK, *belonging to* CHARLES PIERREPONT,

	ACR.	R.	P.
Oak, ash, beech, Spanish chesnut, and elms	797	1	13
Firs of different kinds, and birch	148	0	13
Ashes, ollers, willows, and sallows	36	0	27
Total	981	0	0

N. B. There are 306 acres now in preparation for planting.

Mr. PIERREPONT'S *Woods in the County of* NOTTINGHAM.

Communicated by Mr. PICKLN, Steward to Mr. PIERREPONT.

[The letters denote the Districts; L Limestone; CL Clay; N. of Trent.]

	ACR.	R.	P.
Kirkby, (L) Coalfield-wood	8	0	0
Holbeck, (L) Old Hag-wood	20	0	0
Lexington, (CL) East Park-wood	31	0	0
Ditto Saw-wood	38	0	0
Ditto Middle Spring	45	0	0
Kneesal (CL) Green-wood	64	0	0
Eakring (CL) Hobheron-wood	19	0	0
Brail-wood	29	0	0
White-stubbs	12	0	0
Weston (CL) Lady-wood	15	0	0
Gedling (CL) Marshall hills, about	100	0	0
ACRES	381	0	0

N. B.

N. B. The above woods (excepting the last) are spring woods, about every fifteen years, at about eighteen acres per annum; the underw sists of hop poles, husbandry poles, and hedgewood, and the weeding oaks generally applied in the reparations of the buildings upon the est

Water Meadows.—About twelve acres in Whitemoor Farm can be tered, and with very good effect.

Mr. Pierrepont has about twenty acres of boggy ground capable of provement.

No. X. (*e.*)

An Account of Plantations at OSBERTON, *belonging to* F. F. FOLJAMBE

Rufwood -	7 acres, new planted.
Crowood -	6 ditto
Broomwood -	14 ditto
Whincover -	12 ditto, new planted.
Grote plantin -	14 ditto
Grote border - -	30 ditto, new planted.
Square wood - -	8 ditto
Side border - -	16 ditto, new planted.
Ash wood - -	12 ditto
Twenty acres wood -	8 ditto
Danbottom wood -	5 ditto
Yewtree wood - -	5 ditto, new planted.
Spring wood - -	10 ditto
Parks, ditto - -	7 ditto
Keniwell spring -	30 ditto, new planted.
	184

No. X. (*f.*)

Lands planted in the Parish of CARLTON, *in* LINDRICK, *in the County of* NOTTINGHAM, *as follows:*

CHARLES MELLISH, ESQ.

	ACR.	R.	P.
plantation	100	0	0
her plantations	54	2	0
	154	2	0

YLOR WHITE AND WOOLASTON WHITE, ESQS.

	ACR.	R.	P.
ions in the Calf Spring	2	2	0
wood	52	2	0
t wood	8	2	0
ons below Holme field	0	2	0
wood	43	3	0
	107	3	0

COWLISHAW JOSEPH.

	ACR.	R.	P.
on	15	1	0

No. X. (*g*.)

Letter to WILLIAM MASON, *Esq. of* WELHAM.

SIR,

I FIND from the person who overlooks Mr. WHITE's woods, that Mr. EDWARDS, (when last down) took with him all the books and plans respecting the estate at Wallingwells; but that you might not be disappointed in your inquiries, I the other evening took a survey of the undermentioned woods, which is much at your service.

I am, Sir,

Your most obedient and very humble servant,

Carlton, Feb. JOS. YOUNG.

No. X. (*b*.)

Woods and Plantations belonging to TAYLOR WHITE, *Esq. at* WALLINGWELLS, *in the County of* NOTTINGHAM.

	ACR.	R.	P.
Lingy wood	22	0	0
Plantation north of the park	2	3	0
One small plantation near the last	0	3	0
New planted in the park, about	3	0	0
	28	2	0

A Particular of Woods and Plantations belonging to His Grace the Duke of NORFOLK, *at and near* WORKSOP *Manor, in* COM. NOTTS, *viz.*

Munton Plantations.

	ACR.	R.	P.
Near Worksop, planted from 1762 to 1764, oak, ash, larch, Scotch, and other firs, (Sand)	168	0	0

Sparking-Hill Wood.

Near Worksop, (Sandy soil) planted in 1762, oak and chesnut	15	0	0

	Acr.	R.	P.
Brought forward	183	0	0
Hannah Park,			
Near Worksop, (sandy soil) planted in 1744, beech and firs -	8	0	0
Kilton Plantations,			
Near Worksop, (sandy soil) planted in 1763, oaks chiefly	36	0	0
Tranker Wood,			
Near Worksop, (soil clay) planted about the year 1727, oak with beech intermixed - - - -	10	0	0
Tranker Wood, in dispute with Mr. HOWELL,			
Near Worksop, (clay soil) principally oak of very ancient growth	69	0	0
Clumps,			
In the park and on the waste, (sandy soil) oak, larch, firs of all sorts; elm, beech, and chesnut, planted in 1758 and subsequent years	34	0	0
Small Plantations of Spring Wood,			
Near Worksop, different soils - - -	16	0	0
The Menagery,			
A plantation of oak, elm, chesnut, beech, cherry, larch, Scotch, and other firs; planted in 1733, and subsequent years (sandy soil)	20	0	0
The Wilderness,			
Near the Manor House, planted at different times from 1713 to 1738; soil clay in part, and part sand; consists of oak mostly, but intermixed with elm, beech, chesnut, larches, pines, Scotch, and other firs of great magnitude - - -	58	0	0
Manor-Hill Plantations			
Were in great part planted in 1734, and subsequent years (soil sandy) consist of various sorts of wood, viz. oak in great quantity; beech, elms, chesnut, pines, larches, spruce, Scotch, and other firs, so disposed as to form a pleasing mixture of variety to the distant view; contains in the whole - - -	350	0	0
An Oak Wood,			
At Stirrup, of ancient growth - - -	6	0	0
Total of woods in Com. Notts	781	0	0

No. XI.

LETTER TO SIR RICHARD SUTTON, BART.

Sir Richard,

I AM extremely sorry I have not had an earlier opportunity of communi these few scattered hints which I have been able to collect, for Mr. Lowe survey of this county; and I regret that I have not the pleasure of giving information upon so important and interesting a subject as I could wish, I been more in the habit of observation than practice; however such as ha curred to me worthy of any degree of notice, I here offer you.

Lands under tillage in this county, whatever may be their rotation of cro generally fallowed the third or fourth year from the preceding fallow; an and has been the custom, to lay upon such fallows the manure arising fr lands in tillage upon the same farm, and to plough in the same. This pract been exploded by many, yet discontinued by few. Where it has been the ca instead of ploughing in the manure with the fallows, and suffering its most parts to descend below the sphere of vegetation, it has been spread upon th bles of the succeeding crop, whether wheat or barley before, or early in the a good pease crop has scarcely been known to fail, which if grown upon barle bles will prepare the soil for wheat; for notwithstanding it may be asserted, t crop immediately after the fallow will lose the advantage of its manure, kept off). I am justified in this opinion by several observations, and m experience, that little or no advantage, and sometimes a disadvantage, to t crop, will be the consequence of manuring the fallows, particularly upon wet land, as the lumps of litter or dung cannot become sufficiently mixe the soil, but, on the contrary, will hold water like a sponge. As I hav seen and been materially affected by that practice, it has determined me to abandon that mode, as the land by the other method will receive th nourishment, though at different stages of its rotation.

I have generally observed those crops answer best from their regularity, are sown upon lands from three to four yards in breadth, and pretty lov vided care be taken to grip and drain them well, to prevent the water st in the furrows. The only reason I can assign is this: the quantity falling between the ridge and the furrow cannot form itself into such lar

rents in its descent to the lowest parts, as it would on large lands, where the distance from the ridge to the furrow is so great as to suffer the water to accumulate into large streams before it delivers itself, washing up even the roots of the corn, and the best part of the soil. It is evident from practice, that an inclosure consisting of low small lands, is much easier thrown down, cross cut, and cleansed from weeds, during a fallow, than those larger and higher.

I think I have before hinted to you the great advantage I once acquired, (about three or four years ago) by hand-weeding a crop of wheat in the month of April. It was perfectly to appearance smothered by weeds, particularly what we call hariff, or herrif, so as that very little wheat was to be seen. I ordered my man to harrow it, which he did, till I perceived the harrows drew up more corn than I wished, and left very much weeds; the soil was a light silted land. He then desisted, and I employed a number of women to creep over it, with directions to pluck up every weed, if possible, however small; they obeyed my directions pretty well, which cost me five shillings per acre; and notwithstanding there scarcely appeared any wheat left after the operation, in about three weeks the crop looked well, and became sufficiently productive, yielding nearly four quarters per acre, and the wheat weighed sixty-five pounds per Winchester bushel.

As to that part of the county in which I live, I am sorry to say, that except with a few individuals, I find no general wish for improvement. The hedges neglected, the ditches suffered to be trodden in and grown up, the weeding of crops not attended to, the fallows too little pains taken with; in short, some of the farmers see no farther than the present profits, which often deprives them of future ones. Indeed I perceive an error to pervade the minds of many, as well in other places as here, which would induce them, if permitted, to plough up as much land as possible, and sow four or five crops successively between each fallow; with an eye to immediate advantage, without any thought of leaving their possessions, till in the end their farms become reduced in value; consequently an injury to their landlord, (in which, provided they continue, they must themselves participate) must be incurred.*

For the above reasons, it becomes necessary for the sake of such tenants only, to place all who rent farms under restriction by leases for a year; the heads of which should, before committed to the attorney, be drawn up by some person conversant in speculative husbandry; which leases should, among others, comprehend the following clauses, or articles, viz.

The rent per annum, and times of payment; that the buildings, fences, ditches, drains, &c. be kept in repair; that the timber be not injured; that no swarth be broken without leave in writing by special agreement; that no more than crops be had between each fallow; that all lands laid down be upon a clean

 fallow:

* I am sorry to say, some land-owners are so jealous of any profit accruing to the tenant, that they are constantly enquiring into his profit; and without considering his losses, expences, &c. &c. by advancing his rent on the least suspicions of advantage, he is driven to the waste and destruction of his farm for his own present support.

fallow: that the quantity and kinds of seeds be specified; that no hay, straw, c manure, grown or made upon the farm, be sold or taken away; that the lan lord shall bear a proportionate share of the expence for all *foreign manure* pu chased for the use of the farm; that none of the articles may be broken varied, without leave in writing, and that not to affect the original agreemer except in that particular case.

Hop ground, of which there is much in the neighbourhood wherein I live, I a under apprehension (generally speaking) tends to injure the lands, in the vicini thereof, as the whole attention of some growers is to accumulate all the m nure possible to be collected for the hop-yard, and totally neglect every thi else; this I judge to be a principal bar against improvement, however the f vourers of hop-planting may deny it. For the hop is known to require mu and constant support, without repaying any thing to the dunghill; and witho considerable assistance there can be no expectation of a crop—lucrative if obtain —and ruinous if otherwise (to some small farmers or cottagers). The tenant, (such), exerts his utmost abilities to contribute all he can to that vegetable lotter which, if the expression may be permitted, may turn out a sorry blank, or a pri of much greater magnitude than all the profits of the other part of his farm, ev in its greatest state of improvement. I am ready to allow that some hop-plante have their other lands duly attended to; that they purchase an additional portion manure for their plantation, leaving for the farm what it produced. Tl granted does not destroy the proposition; for either his ground, who sells t manure, or that of some one else, who probably might purchase it for corn or g land, is thereby deprived of its use; and as the hop-planter can afford to give mo per load for it than any other person, it becomes of more than twice the value such a situation, contiguous to hop plantations, it would elsewhere. This intel gence I do not impart with any view to detract from the value of the science, if su it may be called, or to hinder the growth of the hop, being a very useful article life; but as I am convinced the observation is founded on fact, I cannot he submitting it to your consideration, having much lamented any deprivation manure which grass or corn land may suffer; the bare mention thereof leads r involuntarily into a descant upon the use of straw, in thatching houses, barı &c. as another bar to improvement. For, was the thatch thus expended, appl to the purpose of littering cattle, instead of remaining perhaps twenty or thir years a dangerous, ill-looking, vermin-harbouring, dusty, and unprofitable c vering for a house, stable, or barn, when a handsome covering of pantile mig be laid thereon, free from the above inconveniencies, and nearly at the sar expence; I repeat, was such straw converted into manure, and applied to the gr or corn land of such farms as are thus deprived, the effects would be profital and lasting: for I consider the additional manure laid upon land, not to ha finished its task when it has produced one, two, or three crops, but presume th the increase of such crops contain as much materials for another dunghill as th which produced it, and so on ad infinitum.

If every farmer would seriously consider the above observations, he wo board up every thing that might be converted into this grand primum mobile agricultu

riculture, as gold. I do assure you I myself am so much a slave to the thirst
er it, that I am sorry to see my servants make use of too large a whisp for the
tchen fire.

Ashes may be good management as far as they go, and while their effects con-
nue; but though I preserve what I can of that article, and approve the use,
must confess myself an enemy to burning swarth, (what has been too much the
actice in this and other counties) unless the soil be remarkably thick indeed.
he ashes remaining, after the richest part of the sod (were it reduced to manure
putrefaction), has escaped in smoke, contain a much less bulk than the soil
elf, and though productive of one good crop, and perhaps more, the effects soon
appear; and in many instances I have known a barrenness ensue, which a long
ries of years has not been sufficient to remedy, though much expence and pains
ve been bestowed thereon. I believe the damage is often increased by the neglect
persons who burn the sods, in letting the fires rise to such a height that the
rth contained in the swarth is burnt to the nature of a brick, and when that is
case I suppose that neither time nor art will ever bring it back to earth again;
I have observed fields ploughed up, in which the burnt earth is as discoverable
if fresh done, though the land has not been burnt in the memory of man.
his kind of doctrine will not be relished by the favourers of paring and burning,
they are well aware it is the surest method to obtain an excellent crop; and I
ust confess I do not recollect I ever knew an instance wherein it has failed.
t, notwithstanding the farmer may advance many arguments to prove its
lity in production of crops, yet if the land-owner must abate as much in the
l value of his estate, it must tend at last to a degeneration of the land so
used, and consequently a bane to future occupation.

Upon my little inclosed farm, little of which is fit for turnips, till of late in
ss, I began with manuring such land upon the swarth as I intended to break
in the course of three or four years, at the rate of fifteen or sixteen loads to
acre, during which time I find the pasturage and hay crops much improved,
d I doubt not an advantage will be again found when in tillage. I do not, for
sake of a first crop, intend to pare and burn the swarth, and thereby destroy
best part of the soil; but to pare as thin as possible, and lead the sods on
ps, by means of a *broad-wheeled* cart, to rot down, with a mixture of long litter
d other things, as a valuable provision for future wants. The land thus cleared
ll be more certain of its first and second crop, than if the swarth were ploughed
as is often the custom, to the injury of all the crops grown before the sward
otten, especially when it contains the roots and blades of old sharp woodland
ss, which is found to occupy cold clay land when long laid down; for the
ls are apt to lie hollow and contain much water, which starve the roots of the
in, and has to my knowledge deprived many of their crops. It seems to me
onvincing proof, for I have observed many old inclosures so ploughed yield
y poor crops for two or three years, after which they have produced very fine
g.

t is my intention, in March or April next, to sow upon an acre of land in
enter of a large grass field, about fourteen pounds of white clover seed.

The

The close was well manured from the fold-yard in November last, and has never yet been harrowed. After sowing and harrowing with a common harrow, to scratch the swarth a little, I mean to make it fine by means of a thorn harrow, and wait the result of my experiment, which is intended to shew how far grass land may be improved without ploughing. Should it succeed, I shall take pleasure in communicating my success to you.

In laying down land for grass, I have often noted, that the white and red clover has been sown together, under a mistaken notion that the red would produce a burthen to compensate for the shortness of the white. The consequence has been this, the red being much stronger and larger, over-runs, smothers, and eats out the white for two or three years, or till its pipy stalks become large, are cut or wounded, so as to take in a sufficient quantity of water to destroy the root; when it dies, a large chasm of bare land appears, and so many upon the field, as bears proportion with the quantity of seed sown with the white. I have remarked that those vacuums are not speedily filled with other grass, unless the land be subject to a spontaneous production.

Gypsum or white plaster threshed in an unburnt state, I have tried as a manure upon grass land, about three years ago, according to the rules prescribed by a pamplet published concerning the use and good effects of that mineral in America; and am convinced, whatever virtues it may possess in America, it has none here; at least the native plaster which I made trial of had not. I began by laying on six pecks to the acre, and increased the quantity till I expended six bushels per acre, yet no visible alteration of the herbage could be discovered even to this day.

Small inclosures of grass land, in my opinion, answer much better than the same quantity in large ones, (except in pastures for sheep, which are required to be large for the benefit of cool breezes in summer, and less troublesome on account of the fly.) I have long contended this argument with the advocates for large fields, and am glad Mr. Robertson, in his Survey of Mid Lothian, agrees with me in that opinion. I constantly see small closes, surrounded with good white-thorn hedges, bear a greater burthen of herbage in proportion, than large ones; and the reason seems evident. Independent of the manure deposited in the shade by cattle when sheltering, in spring, when the cold sharp winds blow off from the surface of the ground, the warm atmospheric air occasioned by the reflected rays of the sun, in the same manner they blow off the circumambient warmth, caused by perspiration, from our bodies, and renders us more sensible of cold than in still calm weather, though the thermometer points the same degree. Thus wind, by having to pass the interwoven branches of the thorn hedge of a small inclosure, is not able to resume its former violent current before it becomes again broken and divided by another of the same fences. In summer, when much hot and dry weather prevails, the hedges shade off the sun and wind, so as to prevent the moisture left by showers and dews from exhalation; of consequence vegetation is more encouraged than where the ground is more parched.

The breed of stock has not yet been much attended to in this neighbourhood; and though I have long wished to improve my own breed of beasts, other business has prevented me from taking that pains necessary for accomplishing so desirable a purpose.

a purpose. The short horned Yorkshire Holderness cow is the most esteemed here, both for milking and fattening. Perhaps Mr. Turnell of Stokeham has applied himself more to the breeding of beasts, than any person in this part of the county. As to sheep, having myself been so little conversant with them, I must beg leave to refer you to others better informed.

I am sorry I cannot give you so much intelligence upon the dairy as I wish to have done, not having had sufficient early notice of the inquiry, as it would require a due observation for some years, to come at the production of a dairy farm, people not being in the habit of either keeping clear accounts or burthening their memories with the profits or losses incident thereto. At Fledbro' the farms are not very large, perhaps from eighty to one hundred and fifty acres in a farm; the principal occupation is confined to the dairy, though some of them feed very good bullocks thereon. The most correct account I can make out, respecting the production of cheese is, that one cow will produce about three hundred pounds weight of cheese, upon an average, during the summer season.

Calves are much better fed upon linseed pottage mixed with new milk, in the proportion of one-third of good mucilage to two-thirds milk; they thrive much better, rest a great deal, and the veal is generally finer; at least the butchers who purchase mine thus fed, tell me so. I have also bred calves in the same manner, only with this difference, when three weeks old, we give them old milk instead of new, and the same quantity of the linseed, viz. one-third. The linseed is put into cold water, and heated over a slow fire (one pint to two gallons) for two or three hours, scarcely suffered to boil, then passed through a hair sieve. Warming the linseed saves the trouble of warming the milk.

Having been much employed as surveyor and commissioner for inclosures, you may expect much information on that subject. The improvements are as various as the circumstances under which we find the lordships to be inclosed; the difference proceeds from the disproportion of their soil, quantity of commons, goodness of, or impracticability of making good roads without an enormous expence, contiguity to markets, &c.

A lordship chiefly consisting of good sand land, with extensive commons belonging thereto, may be said to be the most capable of improvement; a clay one, with a great quantity of common, the next; and a clay one, with scarcely any open common, the least of all; though even the worst, upon an average, will increase about one-fourth in value, after deduction of all expences attending the inclosure, while some lordships, under the first description, in a few years have more than doubled their value before inclosure.

We have lands in this neighbourhood, which, I am certain, might be considerably improved by watering, provided the practice was introduced so that the labourers and servants could be instructed in cutting the carriers; but unless a person was constantly attendant he would not have the work done properly. I hope, by means of the Board of Agriculture, and their communications, that practice, as well as other useful ones, will be made general.

You will readily observe, from the irregular and detached way in which I have placed my observations, that I have not had time to arrange them properly; but

have

have put them down as they occurred to my mind; this I know your will readily excuse, provided only one hint may prove serviceable to deavours; and be assured, should the least benefit be derived from an nication I have the honour to transmit, I shall receive ample gratificatio the means of throwing a mite into the treasury.

Should this or any other of my feeble efforts entitle me to the honour correspondence, I will take the liberty of giving such occasional hints as after present themselves, leaving the approbation or rejection wholly a the superior judgment of yourself and the Board to determine.

And am, Sir,

Your very obedient humble servant,

Darlton, Feb. 5, 1794. WILLIAM CALV

P. S. I am greatly obliged to your kindness by the perusal of M son's survey, it being a most excellent one in my opinion, as it has much amusement; the remarks seem made with precision, judgmen partiality.

No. XII.

LETTER FROM GEORGE NEVILE, ESQ. TO SIR RICHARD SUTT

FEB. 1ST, 1794.

SIR,

IN compliance with the desire you expressed when you took a v place with Mr. Lowe, that I would give you some more particular i concerning my improvements and management, I have to acquaint have taken from the best sort of common ling moorland, about 700 divided it into five small farms, and built brick houses and necessary con and tiled them, all upon plain useful plans. These farms are divide fences, and many of the inclosures by birch; both grow extremely birch fences, for the most part, are strong, and ready to plash in four planting; and by twigging them for besoms, pay something more than t at each plashing. They shoot very freely the first year after plashing about the height of the hedge, and very soon make a strong fence. the poor land is very thin skinned, not having above four inches of to before you come in general to a yellow, and too often a sharp white s land is the best where the yellow prevails, being stronger, and not with

mixture of clay in it. We plough this, and keep all our manure as much upo
the surface as possible. *Paring and burning* is never eligible, but always bad ma
nagement, except where the land is first taken up from the rough, viz. when fu
of stalky old ling or gorse. Under these circumstances it cannot otherwise b
brought into management in any moderate time, or at any moderate expence. Th
expence of paring, is from ten to twelve shillings per acre; burning, from fou
to six shillings; stubbing, more or less, according to the work. This managemen
or rather mode of taking up land, secures a good crop of turnips; and the lay
for sheep always good. The course of tillage is for the most part, as in forest land
turnips, wheat, rye, pease, (grey rouncivals chiefly) barley on some parts; oats, len
tils, and vetches, grow very well with good management, the whole art of whic
consists, (supposing the land judiciously worked and cropped) in keeping it fres
and fresh, viz. never to crop it much in tillage, or continue it long in seeds. A
soon as the land can be spared, when the seeds begin to decline, it should be ploughe
up again in the swarth, for pease, oats, or skegs, then manure well for turnip
then lay down with proper seeds; whilst the land is in good heart, with a crop o
barley, or winter corn, if the turnips can be eat off in time for the purpose. Ry
grass has its use upon this land, mixt with white clover, trefoil, red clover, an
perennial red clover, commonly known by the name of cow-grass, or in som
other counties, red honey-suckle. Having no meadow land upon this sort o
farm, I am reduced to mow the first year always, but never afterwards, pastu
ing it till again converted into tillage, with sheep. There is necessarily a varia
tion from this system, according to circumstances and seasons. I raise heaven an
earth, to make *manure*; but as very little clay, of any quality, is to be met wit
upon this sort of land, I have but few opportunities of making any large or suf
ficient quantity for the improvement of it. We use lime (Knottingley is by far th
best) and to advantage, when mixed with good dung. A chaldron, with ten load
of manure, is more, in general, than we can get for an acre. Lime by itself o
on this sort of land is little used, except on fresh land. I mow ling, rushes fron
other lands, which I bring to bed with and tread down, and even pare waste lan
in lanes, to make *compost* with ditch stuff, fern, lime, rushes, dead gorse, &c. —
By this management you may judge how I am straitened in the article of manure
Having two dove cotes, I use about ten chaldrons of *dove manure* every yea
either on turnip land, or winter corn, with advantage. *Stickleback* manure exceed
all other that I have ever tried, as a present or lasting manure; but alas! I have no
been able to get any for these last ten years: I used it then in tillage, and its effect i
visible to this day. *Whale blubber* is to be procured from Hull, but the price aske
is discouraging.

Of *sheep* I have two sorts, the one which I call my *upland* sort, of the Lincoln
shire pasture breed. The hogs, run about three to the tod of twenty-eight pounds
the ewes, five or six.

As to my *lowland flock*, I begun to breed from the Weighton, Yorkshire Lime
stone sheep, which was a small, compact, short wooled, hardy sort, and suited ex
tremely well; but for many years I have crossed with the shortest wooled fores
sort. I have now a flock of Scotch sheep, with black noses and feet. They ar
very hardy, and very round and compact in their make, and short wooled; thes
have been crossed by an excellent short wooled forester, and my lamb hogs are a

As to the *uses of birch.* My birch is felling from November to the beginning of March, though the sooner the better, as it is very early in its sap in the spring, bleeding exceedingly if not cut before March. I first let the twigging to the besommakers at so much per bottle (or bundle), measuring four feet in the girth. The twigger lets the bottles lie till March, then takes them away and stacks them like corn, and thatches them. They must, however, be tolerably dry before stacking, as otherwise they would be apt to heat and mould in the stack. The besommakers suit their own convenience as to the time of working up the twigs, generally beginning the latter end of the year, as soon as they become properly dry and seasoned for use. The making up is winter employment generally. I then cut out the shafts or staves, which I sell by the thousand or hundred. The tree thus dismembered I sell to the brushmakers, which is converted into brush heads, painters' brush handles, bannisters, spindles, distaffs, &c. and short pieces are werked up by clogmakers and shoe heel cutters, &c. I sell these poles by the score, or by the groce of the articles they are converted to. In the last case they are cut up in the rough before they are carried from the woods. The refuse is kidded up for the bakers and family use; the nogging ends unconverted, are brought into my own yard and burnt as coal, making the quickest and best burning fire possible, and the pleasantest, never sparkling or flying in the least. I used to raise a great quantity from seed. In this case I used to pare and burn a piece of my worst land, on which I sowed turnips, eat them off early, and ploughed the ground immediately, and harrowed it well. By this means the land was immediately in order for the seed, which I harrowed well in any time before the winter, which I prefer, as the plants will grow the sooner and make greater progress by coming out of the ground earlier than if this business was delayed till the spring. They will grow in great abundance sown broad-cast like corn, and be a nursery for years, leaving a sufficient quantity for a plantation at last. The seed may be easily taken from bearing trees, by cutting the branches before it is quite ripe in August, and may be threshed out with a flail as corn, as soon as the branches dry a little. By this means I can, in the course of a few hours, get as much seed as would sow an acre or two of land, at the rate of two strikes or bushels to the acre. I raise few in this way now, as I can furnish myself with seedling plants at one shilling per 1000, for taking up and planting the same at three shillings per ditto. These are taken up with small balls of earth, as are the *Scotch firs*, which I grow and plant out in this way, at four and five shillings, including the expence of taking up. These plants (whenever I plant them) do not seem to be sensible of their removal, and are carried with my own teams to the planting ground at no expence worth mentioning. The size of the Scotch fir then taken up, are from two to three and four feet high, and I do not lose one in a thousand, except by some accident. I have forgot to say that I make rails of my *birch*, tray, and gate bars, first shaving off the bark. The rails frequentiy are used to get up a second quick hedge on my bad land, so well do they wear; and I prefer them, for this purpose, to any oak or ahs sapling rails whatever. They make very light and useful bars for inward gates for farmers, and with oak heads will last many years. I have corded a great deal of this wood, where it is not kind enough for riving for farming purposes, and it charrs very well.——As to my *rein deer moss land*, as you termed it, I

No. XIII.

PEN AND INCLOSED TOWNSHIPS IN THE CLAY DISTRICT NORTH OF TRENT.

OPEN.

n	Headon	* Weston	Oxton
	Upton	Normanton & Gresshorp	Kneesall
	E. Drayton	* Sutton	Caunton
and N.	Dunham	* Tuxford	Kirklington in part
and N.	Ragnall	Egmanton	Upton
	Askham	Laxton	Southwell in part
	East Markham	Norwell	Woodborough
rt	Ompton	Kirton.	

INCLOSED.

Fledborough	Halloughton	Bulcote
Ossington	Thurgarton	Part of Arnold
Maplebeck	Gonalston	Part of Calverton.
Winkburn	Loudham	
Hockerton	Lambley	
Southwell in pr.	Gedling	

* Inclosures in agitation.

No. XIV.

ACCOUNTS OF THE SUCCESS OF LIME AS MANURE, IN DIFFEREN PARTS OF THE CLAY DISTRICT, NORTH OF TRENT.

Mr. CALVERT, of Darlton, on a cold clay soil, has laid from one to as f as twenty chaldrons of lime an acre, and found no benefit whatsoever. He use the Knottingley soapy lime from Yorkshire, which is much esteemed. H tried it for several years, having had two or three sloop loads. As he informed me Mr. Cartwright, of Marnham, by persisting in it, spoiled a close entirely.

Mr. Musgrave, of Kirklington, one year, on purpose for a trial, limed i Kirklington for his mistress, and in Halam for himself, two chaldrons, or sixty four strikes an acre, some of Newark and some of forest lime; and in another par no lime, on a summer fallow red clayey loam. He dressed all with dung at the same time. He saw no difference in the crop; but where he laid the heaps of lime, nothing has grown since. His own land has never come about since that time. He apprehends many are drawn into lime by example only. If of any service, it is to lighten; but good fresh soil laid on is much better.

Mr. Brocksop, of Kirklington, manures his fallows with ten loads of dung, and six quarters of lime, with good success. On his first coming, he limed a piece of land with eight quarters of lime an acre without dung (laying only a very little on the worst parts), and sowed part wheat, part barley and clover. The barley was much better than on two lands which were left unlimed. The next year the beans, which followed the wheat, were a foot longer than where unlimed, and the clover remarkably good.

Lime is likewise used with good effect in Hallcughton, Hockerton, and many other places; but from the above instance, the benefit of it does not seem to be fully established in clays.——Vid. Mr. Green's Observations, Appendix, No. XV.

About midsummer Mr. Cooke of Easthorpe in the parish of Sindwell, puts ten quarters of lime upon an acre; he is sure it answers, by keeping the strong clay light, and can work it almost any time after the first ploughing. He hath tried it upon hazel land, but thinks it of most use upon clay. An experiment was made in a clay close, part without any manure at all, the rest limed; the lime brought much the best crop. He is of opinion that the lime is of full as much use the second year after it is laid on, as the first, and of service even the third. In Morton Field, it is customary either to lime the land and fold the sheep upon it, or use manure. Cooke saith there are much the best crops where liming and folding are practised. He can distinguish the difference a great way off. The Newark lime much the strongest. He hath used both.

Mr. Cooke comes from Long Eaton, in Derbyshire, where they lime both sand and clay; and he thinks it answers about equally.

No. XV.

TIONS BY MR. GREEN, OF BANKWOOD FARM, IN THURGARTON, ON PARING AND BURNING, &c.

anner of cultivating my land at Thurgarton, when I entered upon it in for two or three years after, was different from that in which it had been fore. Paring and burning had been the usual beginning, then two crops &c. which I had reason to think injured the land much. I began upon up grass land to sow beans and pease, then wheat, but not finding the p answer, was obliged to try some other method. I was not willing to the mode of paring, as, it being woodland cold land, it is, in my opi- ning the best part of the land, which is as far as the grass roots go, and the quantity of the soil; and after the two first years, I believe the qua- t being desirous to try some experiment first, I pared a small piece of field, and adjoining to it ploughed up a small piece of grass land, and th with turnips; but as the burnt dust was manure for the present crop, t in fairness the grass ploughed ought to have some, and laid on a uantity, as about eight common cart loads an acre; but the grass land ghed only once before sowing (which I found to be an error in me.) The p was not so good as upon the pared land; but having the spring follow- both parts with barley, the grass land ploughed brought the best crop, ere the following crops till laid down with seeds. In the seed pasture I ifference. Secondly, In another field I ploughed a piece of land at the g of winter, by way of winter fallowing; and in the spring broke it to the best manner I could, laying about the same quantity of dung as ntioned. Though in this method I found the land full of turf sods, I hink or find it the worse for it. In the center of the land was a part of much stronger and rougher grass upon it. I pared that part and burned wed all the plot of land with rape seed for fattening sheep; but upon the llowed I had much the best crop of rape, and it had likewise the best rain afterwards, which convinces me that it is better not to burn the sod h sort of land. By ploughing it as before-mentioned, I find the sod or ure for that land. The expence of paring and burning at a low price fifteen shillings per acre; and if I had not dung from my farm yard, injuring or robbing other parts of my agriculture, *lime* will do, which I and found to answer, laying so small a quantity as forty-eight strikes an acre,

acre, instead of the dung before-mentioned, and treating the land in the same manner; and after the rape taking a barley crop, then an oat crop, afterwards a fallow, with rape or turnips; then sowing barley with seeds in this proportion, red clover, 8lb. white, ditto; one bushel and a half of hay-seeds, with a little rye-grass. This produces a pasture much to my satisfaction; and by pasturing the said land for three years, I find it in a much improved state. Instead of fallowing when broke up again, I am quite satisfied it will answer for wheat to be sowed on the seed ground after lying the three years. I have made the trial, and found it to answer. After the wheat I would sow oats, then fallow for rape as usual, and seed down as before. By this mode of management I find the land I occupy, which is woodland land,* and nine years ago in a reduced state, to be much improved. By the use of seeds I keep considerably more stock, and by the improvement in my breed by the new Leicestershire sort, can keep more in number, make them fatter, and rise to greater weight in the same time than I could nine years ago.

I add some observations which occurred to me on reading the Survey of Mid Lothian, applying them to this county.

Page 48. As it is mentioned that in ground newly brought into tillage, lime has the greatest power; my opinion is the same: but if it do not become an assisting manure upon old tillage, by seeding that old tillage for a few years, as pasturage, when taken up again, I believe the lime then to become of use. Arable lands, in general, are kept too long on the plough, and too little use made of seeds. If practised the contrary way, I believe it would be found an improvement.

Page ditto. Compost lime, road soil, &c. being mentioned as useful, though not a powerful manure; I believe the same: but if more practised in this our country, it would be found very useful to meadow land. It is very proper in that compost to mix a part of dung.

Page ditto. Farm-yard dung I think, to be properly ordered; the shortest time it should lie after being turned in the yard, should be six weeks.——N. B. In the winter, the dung that comes from horses should be regularly mixt with the dung that is made by other cattle, which promotes a greater fermentation than if it was not mixt. Taking dung from the stables by servants in barrows, and turning it down in heaps upon the dung-hill, without spreading it with a fork, is an error too much practised by the servant, and too little noticed by the master.

Page 55. In tillage great improvements may be made, by reducing the breadth of the lands, which being from thirty-six to forty-eight feet wide, and elevated in the center three feet, in such a form, no arable land can be worked to its best advantage; the ridges, at some periods, being over-dry, and at others the furrows over-wet. It appears also an improvement, at the time of ploughing, to make the furrow become the crown, and crown the furrow, alternately. I have myself tried the experiment upon woodland clay soil, and found it to answer: I wish it was more practised, I think it would be an improvement upon most sorts of soil.——N. B. Upon dry sand soil there is no occasion. It may be

said

* A blackish loam with mixture of sand.

said this mode may not suit a damp soil; but as the breadth is mentioned to be such as to suit to be sowed at one cast upon a land, a single hand cast upon a land cannot be sowed regular; but the same land should be sowed by double hand, but with the same quantity as the one hand would have done, which places the corn more regular, and likewise prevents it from falling into the hollow furrows, which is too much the custom in sowing, and appears to me an error; for as there is less soil in the furrow, consequently there should be less seed there: and upon moist soil it is but reducing the breadth to such a size of lands as may suit the moistness of the soil. I think that the best means to keep it dry is, that the colder the soil the less the lands should be; and after the seed is sowed, I would have every furrow cleaned out by the plough very carefully; and I think by that method the land would be found in better state than to be put into large and high lands to dry. After a wet winter, high lands are supposed to be firmer and ready earlier for seed; but if the low parts of large lands are readier for seed in the spring, consequently the small lands may be nearly as ready; for to have large and high lands upon wet soil, ridge and furrow in equal order, I think an impossibility. I should give my opinion to have small lands to be the best; but the moister the soil the shorter the lands should be, with proper drainage at the ends; and if not sufficient, a few under-drains should be made.

Page 61. Mention is made, that wheat is very seldom sowed after barley, because it is attended with ill effects; for however well it may look in the spring, it falls off very much before it comes to the sickle. I have tried it in Nottinghamshire, which answered as ill as here mentioned. It looked well till got into ear, and instead of filling forward to make a good crop, of which, at that time, it had all the appearance, it dried up at the root, and wasted away, so as to be of very little value. I believe it to be a received opinion with many farmers, that it is an error to sow wheat after barley: I myself am convinced of it.

Page 82. As it is observed, there is a want of spring keeping betwixt the end of turnip-keeping and the succession of seeds, which come one month sooner than the other grass; I cannot say how the seeds are treated in that country; but can say the less they are eat, the earlier they will be upon all sorts of soil that they are sowed upon. To have seeds in the forwardest perfection, they should not be eat at all after the harvest crop is taken, except a little time after harvest, if the ground be dry; and as soon as wet comes, or winter approaches, should be entirely cleared of stock for the winter season. If it is convenient to the occupier of that land to lay a part of dung upon the seeds, while lying dormant, it would be of infinite use, and likewise forward the seeds in the spring. It is to be considered, that in the North of Scotland, they are much colder than we are in Nottinghamshire; but in this county I have tried the above-mentioned upon very cold woodland soil, and frequently have had the succession of seeds immediately to follow the winter-keeping. I have reason to think the backwarder the land, the less the seeds should be eat; and upon very late land, I think should not be eat at all till in the spring pasturage.

No. XVI.

West Drayton, January 7, 1794.

SIR,

WHEN I had the pleasure of spending a few hours with you at Clumber, you desired me to procure you an account of the number of acres planted with hops in this county, and likewise the expence of their cultivation. According to the best information I can get, there is about 1100 acres of hop ground. It consists of different kinds of soil, but chiefly strong clay, and bog or black earth. This, (the Eastern) part of the county is strong clay. The plantations here lie in valies and wet lands for the most part, not very valuable for other purposes. The common price of first taking up, or converting grass land into hop ground, is fifty-shillings per acre; exclusive of sets, planting, and draining, which cost about as much more. Poling new ground is the heaviest expence; it will (if new poles are used) cost at least twenty-five pounds per acre. The best managers here set but two poles at each hill, (and where the bind is strong) but two binds upon each pole.

The common price of what is provisionally called, "looking after an acre of hop ground," is from forty to forty-five shillings: this work only consists of digging, pickling, cutting, poling, twigging, once hilling and hoeing, and poles stacking. Good managers add at least two hoeings more, which cost half a crown an acre each. Then there is the draining every other, or every third year, with fresh earth getting, catch poles sharping, carrying in, and setting, with many other little works, which are for the most part here done by the day. The men's wages are fourteen pence from Michaelmas to May-day, and eighteen pence from thence, to Michaelmas again. It is to be observed, that the shopman has the grass that grows on the drains, with the broken pole ends, and often the binds. Upon taking an average of the expence of labourage of my hop grounds for four years, I find it cost me four pounds per acre, for the working part only. The poles, manure, rent, and tithe, about nine pounds ten shillings per acre; which brings a certain expence of thirteen pounds ten shillings per acre, if there is not a hop grown.

The crops in this country, in the best years, are very small, compared with the Kentish plantations, and do not in the very best of years average eight hundred weight per acre; owing I apprehend more to the number of small planters, who have neither knowledge or purse necessary to this intricate and expensive culture, than the badness of the land. With respect to manures, the great difficulty in the management of this plant, is to procure hops of a large size. The bind is easily forced by the use of rags, but they, if not properly used, will make the hops small. I apprehend the best way of using them, to prevent that evil, is not to lay

ay more than eight hundred weight per acre, mixed with three or four cart load of good virgin earth, of a light black soil, or strong land. This composition to b made at least six months before laying on, and turned two or three times, the laid upon the hills after the tying before Midsummer.

I have used the scrapings and parings of oil leather, instead of rags mixed a above, and have found them excellent manure.

Malt caulm I have likewise used, and think it a good manure, and particularl so, where land is subject to the small snail or slug, which eat the young bind o its first appearance; for it sticks so fast to their slimy bodies, that they cannc creep over it to the bind. Where land is subject to grow small hops, I am we satisfied the best method, (where it can be got even at a very high rate) is to di in, in winter, from twenty-five to thirty cart loads of good dung, and if it is nc quite so rotten as to cut with a spade, I think it is the better for strong land. I this method, with good drainage, and keeping the land clean from all kinds c weeds, has not the effect of making the hops a good size, I should apprehend th land is either not congenial to the growth of this plant, or otherwise has bee planted too long, and wants laying down to rest.

The worst evil that attends the culture of hops, is the smitt, which nobod seems properly to understand, and for which no effectual remedy has ever y been found out; neither do I think it would tend to the profit of the planter whatever it might do to the public at large, to have such a remedy, as either mo than half the land must be laid down, or hops would want a market.

I am afraid these few observations, from their being well known to every obse vant and practical hop-planter, will not be worth your acceptance; but if I can t of service to you in any future inquiries upon this, or any other business, I sha always be happy to give such assistance as my small experience and abilities enab me to give, and am with the greatest respect,

Sir,

Your most obedient
humble Servant,
MARTIN BOWER

To Sir Richard Sutton, Bart.

No. XVII.

GENERAL LIST OF WOODS AND PLANTATIONS IN THE CLAY D

NORTH OF TRENT.

	belonging to
Grove and Headon Woods	Anthony H. Eyre, Esq. about all spring woods, some at twelve or thirteen, some at eighteen years. Pay about 20l. an acre when cut. A good deal of ash and oak. Some standards for timber.
Ditto	Ash Plantations - - - cut once in fourteen or fifteen years, paying 30l. an acre.
Eaton	Mr. Simpson's - - - - not many poles.
Treswell	Earl of Bute's - - - - some timber, about 1000 poles an acre, 10l. an acre.
Gamston	Duke of Newcastle's - - about sprung for hop poles, not 300 per acre.
Bevercotes	Duke of Newcastle's - - -
Nickhagh Bush	Ditto - - - -
Askham Wood	Robert Sutton, Esq. - -
Wheatley, &c. &c.	Lord Middleton's, vide No. -
Ossington Woods	J. Denison, Esq. vide No. about
Wellow Park, &c. &c.	Hon. R. Lumley Savile, vide No. X.
Lexington or Lexton, &c. &c.	Charles Pierrepont, Esq. No. X.
Norwell	Prebend of Southwell - sprung
Epperston	Earl Howe's, - -
Ditto	Other Proprietors, - vide No. XVII. *(b.)*
Lowdham Springs	F.W. Edge, Esq. Mr. Broughton, Mr. Wright, and Miss Briggs -
Burton	Earl of Chesterfield - timber oak, sprung once in eighteen years, chiefly hasel and thorn, timber oak and ash much decreased.

	belonging to	Acres.
	Brought forward	2631
asthaw Wood	Earl of Chesterfield's, vide No. XVII. (c)	47
Vinkburn Woods	W. Pegge Burnell, Esq. - sprung once in twenty years, pays at least fifteen shillings per acre yearly. Formerly much neglected, now the vacancies are filling up with ash.	400
irklington Woods	Mrs. Whetham - about small timber for fleaks, &c. Sprung about every fourteen or fifteen years. Fine poles, not many oaks; worth about sixteen shillings an acre, annually.	100
verham Park	G. Sutton, Esq. (including thirty new planted) Sprung in fifteen or sixteen years; in the whole about sixteen shillings per acre. Good young oak and ash.	100
omb Woods	Archbishop of York's - - oak trees few of them timber, ash for poles, and brushwood.	48
Halloughton	Sir R. Sutton, under Southwell prebend of Halloughton, formerly much neglected Small oaks from stools; now bringing into regular springs; vacancies filling with ash	43
Oxton	Mrs. Sherbrooke's - - ill planted	52
	Mr. Lowe's new *plantation* - ten or twelve acres of Huntingdonshire willows, the rest oak, ash, &c. The willows answer by far the best.	42
Marshall Hills	Mr. Pierrepont's - - open wood in Thorney Wood Chace now allotted.	100
Bevercotes, &c.	Duke of Newcastle's *plantations on clay*, vide No. X.	61
		3624

No. XVII. (*a.*)

OSSINGTON, JANUARY 26,

SIR,

I YESTERDAY received the letter you did me the honour to write, would furnish you with an account of the extent and manner of o my woods, to assist Mr. Lowe in his survey, which I take the ea tunity of stating.

They are nearly four hundred acres ash and oak; about twenty acr ally cut down for hop-poles, round poles, and country uses. Suc stay-headed, and not likely to improve against another fall, are felled time. The hazels and thorns are afterwards mostly stubbed up, and planted in their stead; by which mode, with the addition of drain parts, these woods have been very considerably improved. I las pleated the whole round on this plan, which has taken an immens plants. I have some years planted from eighty to one hundred th mean still to pursue the same plan though in a diminished proportio the young plants make poles the first fall, but in general they are to be productive till the second, and many die. Oaks in this soil do any girt, but are mostly straight, solid, good hearted timber.

Should you or Mr. Lowe wish for any further particulars, I shall give you every information in my power. I am,

Sir,

Your most obedient humble servant,

JOHN DE

To Sir Richard Sutton, Bart.

No. XVII. (*b.*)

COMMUNICATED BY MR. DUFTY.

	A.	R.	P.	
Epperstone Park,	208	2	0	The whole of the
Lingar Wong,	5	0	13	cut down once
Brockwood Hill, and Eastwood,	136	0	0	years.
Lord Howe's, 17 =	349	2	13	A. R. P. 20 2 10$\frac{1}{7}$ upon

M

	A.	R.	
Mr. Bingham's Stubbins, -	4	0	Woods belonging to other proprietors in the parish of Epperstone.
Mr. Barnard's Wood - -	2	2	
Mr. Smith's, about - -	20	0	

N. B. These woods of Lord Howe's are begun to be filled up with ash.

No. XVII. (c.)

WOODS IN THORNEY WOOD CHACE, ALLOTTED.

		A.	R.	P.	A.	R.	P.
In Gedling.							
Allotted in farms, and cultivated.	Podder Coppice, - -	55	3	20			
	Leeson, ditto, - -	43	0	15			
	Ouscah, ditto, - -	20	1	30			
	Park Well, ditto, - -	61	0	15			
	Stone Pitt, ditto, - -	65	3	10			
	Harbor Hill, ditto, - -	34	2	5			
	Pismire Hill, ditto, - -	65	3	20			
	Old ditto, - - -	51	0	0	396	2	35
Plains,		53	2	5			

	A.	
East Haw,—Earl Chesterfield, -	47	Allotted, but remain in wood.
Marshall Hills,—C. Pierrepont, Esq.	100	
	147	

In Lambley, Allotted and cultivated,	Coppices,				408	0	0
In Arnold, Now in tillage,	Coppices,				50	0	0
				Acres	854	2	35

No.

No. XVII. *(d.)*

An Account of the Woods, &c. on the Estate of the Right Honourable L
DLETON, *in the County of* NOTTINGHAM; *communicated by Mr.* R
Gardener to His Lordship.

	ACR.	R.	P.	
At Wollaton,				
Paddock Wood,	57	2	11	timber.
Detached Groupes in the Park.	25	0	0	ditto,
Shepherd's Wood,	26	1	5	ditto,
Broomhill Woods,	13	0	25	ditto,
Addess Wood,	21	0	31	ditto,
At Aspley, High and Low, Woods,	11	1	4	ditto,
At Trowel,				
Short Wood,	64	0	37	ditto,
Lawn's Wood,	35	1	10	ditto,
Grange Wood,	12	0	30	ditto,
At Little Leek,				
Two woods, one 12, the other 4 acres,	16	0	0	ditto,
At Broxton,				
Slang Wood,	56	1	6	ditto,
Cinderhill Wood, sprung,	17	3	37	ditto,
At Ossworth, one small wood,	4	0	0	ditto,
At South Muskham Wood, sprung,	111	0	33	ditto,
At Saundby Park Wood, planted upwards of twenty years, but neglected, and fenced in 10 years ago,	20	2	36	
At Caunton,				
Stub Wood, part cut down and replanted,	32	0	6	ditto,
Brunk Wood, cut down and replanted,	11	3	17	
At Wheatley,				
Wheatly Wood, cut down and replanted,	15	2	18	

An Account of the Plantations in the County of NOTTINGHAM, *on the Lord* MIDDLETON, *planted since the year* 1782.

	ACR.	R.	P.	
Little Leek Plantations,	26	0	0	T.
At Wollaton,				
Plantations in the park,	10	0	0	T.
Brickhill Plantations,	11	2	25	T.

I

	Acr.	R.	P.	
Dovecourt close Plantation, &c. -	22	0	0	T.
Goss Plantations, &c. - - - -	28	1	0	T.
At Trowel,				
Shaw's Hill Plantation - -	4	2	0	L.
Grange Wood New Plantations, -	4	2	1	L.

The letters at the end refer to the different districts: T. Trent Bank; L. Lime Coal; CL. Clay, north of Trent.

	A.	R.	P.
Langford Plantations, —— Duncombe, Esq. fine larch, some oak, -	10	0	0
Ditto, on the moor, chiefly oak, -	4	0	0
Winthorp, Roger Pocklington, Esq. ash, elm, fir, pines, larches, beeches, and some oaks, - -	38	1	25
Balderton, to ditto, - - -	4	0	0
Carlton on Trent, Joseph Pocklington, Esq. oaks, - - -	12	0	0
Ditto, firs, ash, elm, &c. - -	4	2	0
North Muskham, to ditto, - -	6	0	0
Firs, Weymouth pine, spruce, larch, &c.			

No. XVII. (*e.*)

LIST OF WOODS IN THE LIMESTONE AND COAL DISTRICT.

		Acr.	R.	P.
Cuckney, &c.	Earl Bathurst's, vide page 2,	196	2	11
Warsop, &c.	J. G. Knight, Esq. vide page 3,	13	2	0
William's Wood,	Chapter of Southwell, - -	41	0	0
Greasley Woods,	Lord Viscount Melbourne, -	285	0	0
Selston Wood,	Ditto, - - -	12	0	0
These two last are timber woods of good oaks, some stubbed, none fresh planted; no ash.				
Nuthall,	Honourable Henry Jedley,	112	1	25
Watnall,	—— Roulston, Esq. -	83	2	28
	Acres	916	0	24

N. B. Lord Bathurst and Mr. Knight's woods, and that of the Chapter of Southwell, standing just in the division of the Sand and Limestone, and most of them partaking of both, I have thought it better to put them here all together, than split them into the several districts.

Particulars of Mr. ROULSTON'S *Woods.*

	ACR.	R.	P.
Thorp Wood,	52	3	10
Hill Hole,	14	3	33
Starth Wood,	4	0	0
Leyhill Wood,	16	3	25
	88	2	28

An Account of Wood Lands belonging to the Right Honourable Earl BATHURST, *in the County of Nottingham.*

Wood's Names.	Quantity. A.	R.	P.	Quality.
				CUCKNEY TOWNSHIP.
Elksley Hill,	7	2	6	Planted with firs, beech, ash, and birch.
Forest Head,	1	2	37	Planted with firs and birch.
Church Plantation,	1	0	36	Planted with firs, oaks, beech, and alders.
Mill Hill,	3	0	6	Planted with firs, oaks, beech, and birch.
Deadman's Grave,	13	0	13	Spring-wood and fine oak timber.
				LANGWITH TOWNSHIP.
Cuckney Hay,	145	0	17	Spring wood and fine oak timber.
Langwith Plantations,	9	1	33	Planted with oaks, firs, beech, ash, and sundry ornamental trees and shrubs.
Boon Hills,	8	0	30	Oak, elm, ash, and lime timber, and planted with firs, ash, &c.
Lady's Grave.	7	0	13	Spring-wood and fine oak timber.

No.

Letter to Sir R. Sutton, Bart.

Warsop, Feb. 4, 1794.

R. SIR,

following are the accounts of Mr. KNIGHT's wood at WARSOP in this

et.	Extent.	
Spring,	75 ACR.	A spring wood, with fine growing oaks, underwood, as hop poles, &c.
ubbin	37 ditto	A spring wood as above, but the oaks not so thriving.
	26 do.	A spring wood, much as last.
Spring	12½ do.	A spring wood, with growing oaks and underwood, as above.
Wood	7½ do.	A spring wood, as above, but the oaks not so thriving.
rrRough Wood	2½ do.	A spring wood, much the same as last.

KTON, *in this County*:

wood,	8 ACRES.	A spring wood, with fine growing oaks, underwood, as hop poles, &c.
y Wood,	8 ACRES.	A spring and timber wood, with very fine growing oaks, &c. What I mean by timber, some part of this wood is rather strong growing oaks, and thick upon the ground.

WBY, *near Kirton, in this County*:

pring,	4 ACRES.	A spring wood, with fine growing oaks, underwood, &c.

erday I delivered your inclosed letter at Mr. ROBINSON's house myself, but not home. If, Sir, you want any further account or explanation, I shall to render you every service in my power. And I am, Sir,

Your very humble servant,

SAMUEL JACKSON.

To Sir R. Sutton, Bart.

HON. SIR, Warsop, Feb. 15, 1794.

AGREEABLE to your request, the following is the statement of the soil in the sundry woods:—

Collyer Spring,	Half sand, the other half loamy.
Lord Stubbins	Woodland clay soil, bordering upon limestone.
Coppice,	Ditto
Parson Spring,	Half limestone, the other light clay.
Rough Wood,	Limestone.
Mosscarr Rough Wood,	Woodland clay.
Norton Wood, *Thorney Wood,* *High Spring,*	A good clay soil

Lord Bathurst's wood, half sand, a fourth limestone, the other fourth a loamy soil.

S. JACKSON.

No. XVIII.

OPEN AND INCLOSED TOWNSHIP IN THE VALE OF BELVOIR.

OPEN.

Elston
Cropwell Bishop
Elton

INCLOSED.

Stragglethorp
Langar
Barnston Basset
Colston
Tithby
Kinoulton
Orrthorp
Flawborough
Kilvington

} Old Inclosure.

UNINCLOSED WITHIN 20 YEARS.

Syerston	Thorston	Aslackton
Flintham	Carcoulston	Orston
Sibthorp	Newton Old Wark	Cropwell Butler
Shelton	Bingham	Hickling
Cotham	Scarrington	Stanton
Hawksworth	Whatton	Granby and Sutton
Shelston	Knecton.	

NOTTINGHAMSHIRE WOULDS.

OPEN.

Plumptree	Wysall
Widmerpool	Clipston

INCLOSED.

Stanton
Willoughby, in hand
Over Broughton.
Normanton, with some woulds.

No. XIX.

FOR THE ROT IN SHEEP.

TAKE five quarts of boiling water, pour it upon a handful of rue chopped small, and cover down the tea thus made for ten or twelve hours. Then strain it off and add thereto as much salt as will make it swim an egg new laid. Add to it a lump of bole armoniack as big as a pullet's egg, and double that quantity of chalk, both well pounded before they are mixed with the tea; when well incorporated add half a pound of flour of brimstone. The whole well mixed, is a sufficient drink for a score of large pasture sheep. To each sheep, after fasting four or five hours, give half a pint of the mixture in a small horn in three horns full, letting it rest, to take breath and cough, a minute between each, for want of which many have been killed in the operation. Three drinks have been given in various years in the months of September and October, at the distance of a week between each drink, with great success, not only to prevent but to cure the rot in sheep.

Whilst

Whilst one person is administering the medicine, another should be employed stirring the ingredients well together.

N. B. The sheep should be kept fasting two hours after the medicine. It is viseable that the person who mixes up the ingredients, as well as he that stirs t together, should use a large wooden spoon, lest by using his hands too freely, compound should take off the skin.

ANOTHER RECEIPT.

Two ounces diapente in a quart of brandy for twenty sheep, given as a pre tive, three times, at Michaelmas, Christmas, and Candlemas.

FOR THE WATER.

To prevent sheep from dropping of the water, take one pound of tobacco, boil it in seven quarts of water one hour. Then put to it four ounces of salt one ounce of black pepper and two ounces of spirits of turpentine. Two sp fuls of this mixture are given to the lambs about a month after they are taken the ewe, and two more spoonfuls about a month after the first. Great care be taken to shake it well together, before it is given, otherwise the turpentine swim on the top.

No. XX.

ON THE CULTIVATION OF WILLOWS.

THE following observations relative to the method I make use of, in culti willows on waste moist lands, I flatter myself will not prove unacceptable Board of Agriculture. I have found, from experience, the advantage of i am convinced my country will be benefited, should it be generally adopted.

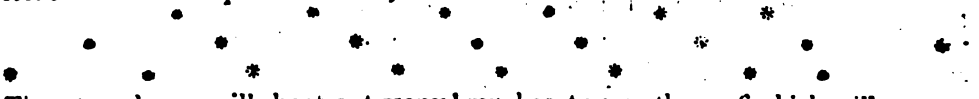
I would first advise the laying out the ground into lands, like hop lands from three to four yards wide, with a ditch on each side; three feet wide top; one foot at the bottom, and two and a half deep. The earth that com of the ditch should be thrown on the land. But if there is not full sufficie for the water to get off, the ditch should be deeper and wider, till you have yard of earth above the level of the water.

As soon as this is done, the ground must be double dug, viz. trenched two depth, except your ground be very boggy, which will afford room for the

to shoot, and will save the expence of weeding, which otherwise must be incurred in the first summer after the plants are set; for if they are not kept clear of weeds the first year, the hopes of the planter will certainly be destroyed.

The willow I recommend as most advantageous on every account—is the broad-leaved, red-hearted Huntingdonshire willow; every other species I have tried, and find reason to give a decided preference to this.

The sets, or truncheons, must be cut from twenty inches to two feet long: particular care should be taken in the cutting, that the bark should not be fridged or bruised, or in any other respect injured; for in that case the plant will be weak and puny. They should be cut, not on a block, but in the hand; obliquely and with a very sharp bill, or instrument. They must be dibbled into the earth by an iron crow, to the depth of fourteen or twenty inches, so that not more than six, or less than four appear above. If the truncheon should not fill the hole, the earth must be trampled close round it, in order that the air may be excluded. Care must be taken that the plant be set as the pole-grows. The cuttings should be from poles of about three years growth. Maiden poles are the best, they should be set three foot asunder in the quincunx form, as thus



Those truncheons will shoot out many branches, two or three of which will grow to poles if the land is good; if not, only one. Those poles I have sold at eight years growth, for 214l. per acre, neat money; the kids or brushwood pay for the felling. Had I suffered them to have stood two years longer, they would have produced 300l. per acre. Should any of the plants look weak or puny, or not shoot vigorously, it will be necessary to dig in a skuttle full of manure, to the roots, which I have no doubt in saying will pay.

Though I have planted no less than ten acres, I cannot say positively, from my own knowledge, what the value would have been had they remained on the ground for fifteen or twenty years, having been called on for sets by the gentlemen of the neighbourhood, which I have sold for 3l. a thousand. I must here observe, that the stools from whence the sets are cut, shoot very luxuriously, and will produce from three to four poles.

The length of poles, at eight years growth, were from thirty-three to thirty-six feet, and most of them were large enough to make three rails, two at the bottom and one at the top: but the great use to which they are applied, is the purpose of making hurdles, flakes, gates, and other farming implements, being a wood uncommonly tough and light, owing, as I conceive, to a new method I made use of in planting them close to the ground. If it is the design of the planter to let them grow into timber (which I would venture to say would be far superior to *deal* for the purpose of flooring, or other light work, particularly as it will neither splinter nor fire; and if suffered to remain for twenty or twenty-five years, would make good masts for small craft, as they shoot up perfectly straight, and without any collateral branches) it is necessary, at the first or second year's growth, to observe which pole is the strongest, as the remaining poles must be cut away. In about fifteen years time I am led to suppose they will want thinning; of course the inferior must be taken out and the superior be suffered to remain.

The times of planting must be from January to the end of March; but the sets for that purpose should be cut from December to the end of February; when the sap is down.* If however there are people so injudicious as to sell sets in spring, it will be to the advantage of the purchaser to plant them, as the sap is then in the poles. The reason why many are induced to cut at that time, is on the supposed account of their pealing better; but I can affirm from experience, that poles cut in December, January, or February, and laid in rows upon the ground, or the ends put in water, will peal as well in the spring as at the usual time.

In regard to fencing, the planter should pay the greatest attention to it, otherwise his time and expence will be fruitless.

No. XXI.

ON INCLOSURES.

IN regard to fencing any new inclosure, I should recommend (though it has been untried) the following method: First of all to set the quicks, which should be young ones or seedlings, or otherwise hawes sown, the ground being first dug, but to be secured by a four or five sod bank on each side;—by which means the quicks will be preserved and attain more moisture; and, of course, being planted in the natural soil, will get into a hedge many years sooner; and if the planting of hedge-row timber is an object, I am confident it will not injure the land. Those should be planted about four or five inches from each other, and from about one or two feet from the quicks, by which means the same fencing that protects the quicks will protect the trees; so that no additional expence will be incurred in regard to hedge-row trees injuring the land. I am convinced from many years observation, that it is not the case; for I have observed, that the warmth and shade it affords in summer and winter is a benefit rather than an injury. I have seen that the grass grows stronger, and that the cattle, by being kept dry and warm by the trees when they get up, do better. I should recommend oaks in preference to any other trees; as hedge-row oaks make the best timber, and injure the land less, on account of the tap root; and next to oaks, elms, but that species of them which does not shoot out suckers, both being of the greatest consequence to ship-building.

The oaks may be planted when seedlings, or sown from acorns; but the elms should be planted from layers not more than three feet high: if seedling oaks are planted,

* And the reason is, that if poles are cut in the spring (the sap being up) the stool will at last be weakened by bleeding, if not killed; and of course prevented from shooting so vigorously as if cut at the preceding time.

planted, I should recommend an acorn to be dibbled in between each plant, fro four to five inches asunder; and when they begin to interfere with each othe which will take place when they are about the size of a good hedge-stake, the every other should be sawed out: I would except, however, any remarkab fine plant. In about twelve or thirteen years, when they obtain a size sufficie for the purpose of making rails, gates, &c. the same method should be observe and so on till they become timber trees.

No. XXII.

MR. BETTISON, OF HOLM, PIERREPONT.

OBSERVATIONS ON THE FOURTH QUERIE.

THE species of stock upon farms are principally sheep and beasts.——Th sheep are of the polled kind, are in general descended from those bred by M Bakewell, of Dishley, in Leicestershire, whose attention and study has been t obtain and produce the best and compleatest formed animal of the sheep kin and circulating those sheep to other breeders, who have, by experience, prov that they make a more profitable return for what they consume than any oth sort;—and not only that, but suit more various kinds of land. To enter into an investigation of the causes of which I have here advanced, would be perha thought a little out of the line of the present inquiries, and would, in some d gree, be deemed curiosity and conjecture; it may be enough to say at *presen* that the effects I have mentioned are proved to demonstration; and howev wild and fanciful many have been supposed, for giving large sums of money f the use of rams, for the purpose of obtaining this breed of sheep, it is now gen rally agreed, that those who have risked such sums, have received the most pr fit in proportion; and t is recommended to those who doubt this conclusion, bestow a little dispassionate and serious observation upon the character, co duct, and stock of those men, who have for many years back been exerting the utmost endeavours, by incessant study and attention, to acquire the sort of shee I have mentioned; and instead of meeting with men actuated by *whim* and *c price*, as hath been *frequently alleged* by those who stop the avenues to reas by *prejudice*, I trust they will find men who are actuated by a desire of real profi and have given the high prices I have mentioned from the motive which all me of business ought to keep in view, that of employing their capital in the most a vantageous way.

Much improvement may be made in the breed of beasts and black horses in th part of the county. For such as are the occupiers of small farms, and desirous improve their stock, and not able, the most obvious mode presents itself for t landlord to form a committee out of the most intelligible class of tenants, wh shall procure, either by *hire* or *purchase*, such and so many male stock, of differe orts, as shall in their judgment, be most proper for the improvement of diff ent breeds. The landlord to be answerable in the first instance, for such *hiri*

or *purchase*; and the tenants, in proportion to the quantities of their res stocks, contribute so much in return (annually) to the landlord; and ac to chances in general, to reimburse him with interest.

No. XXIII.

COTTON MILLS IN NOTTINGHAM.

Dennison and Co.
Green and Co.
J. James
Cox and Co. stands still
Hippinstall
Pearson and Co. stands still
Morley
Harris

NOTTINGHAMSHIRE.

Stanford and Burnside. Mansfield
Ditto Ditto
Stanton's
Robinson's upper mill, Old mill, New do., Middle do., Forge do., Nither do. } Papplewick and Linby
Unwin's, Sutton in Ashfield
Also a mule factory at Sutton
Co. of hosiers, Radford
Thomas Caunt and Co. Southwell
Fiskerton stands still
Handley, Sketchley, and Co. Newark
Late Hardcastle and Co. mule factory, Newark, stands still
Burdin's, Langworth
Hall's and White, Basford
Salmon, Chlevell (nearly finished)
Walsh, Bulwell, part built, but remains unfinished
Rod and Co. Worksop
At Gamston, near Radford, a mill which occasionally spins worsted, cot bump
Lambert's, Loudham, and Gunalstone
Worsted mills
Bagshaw, Mansfield
Toplis, Cuckney
Davison and Co. Arnold
Retford mills

No. XXIV.

eneral Answers to some of the Queries of the Board of Agriculture, with the Mode of Cultivation now pursued on the Estates of the Rev. Dr. Ewes Coke, in the Counties of Nottingham and Derby.

[. B. These answers were not received in time to be inserted or referred to in the Report itself.—— Brook Hill, where Mr. Coke resides, is in the Coal District.]

SOIL, strong loam, on a clay, and a stoney bottom; it is likewise intermixed ith pyrites from the coal and iron stone strata which are beneath it.

5. The grasses which are cultivated for pasture are red and white clover, tre- il, rib-grass, ray-grass, and those seeds which are the natural production of the il, and which consist of the anthoxanthum vernale, and several of the festu- s, some of the aira and avena of the Linnean system: the former of these asses is a most useful addition to these pastures, from its early appearance in e spring, and from the sweetness which it affords to the hay, of which it forms art. The festuca fluitans, which is mentioned by Stillingfleet, in his Botani- Essays, is an inhabitant of the swampy parts of this neighbourhood, and is vays sought for by cattle with the greatest avidity.

The breed of black horses is much attended to, and a great number of them are ld to the southern dealers, who come down to buy them.

As to the sheep, they formerly consisted of the small forest and the large itstone breed, which is now giving way to that of the Leicestershire.

6. On account of the declivity of the ground, there are but few opportunities making use of the practice of watering land.

8. If land has lain any considerable time, and is full of bushes, we pare and rn it; if it has lain only a few years, we plough up the leys early in the spring, which we sow oats. After the oats are carried off, we spread a quantity of e on the stubble, and turn it down; in which state it lies till spring, when it prepared by several ploughings for barley; along with which the red clover is vn: this is mown the year after, and wheat sown upon the clover leys. This ctice is only used upon those loams that are dry, and upon a stoney bot- n. After the wheat we have recourse to a fallow, on which we sow turnips, plant cabbage, then barley, clover, and wheat, and so to a fallow again. Some ners throw in a crop of oats after the wheat, but this is wretched husbandry. those loams that are moist, and have a clay bottom, it is the constant practice give them a complete summer fallow, during which time they are well limed, then sown with wheat at Michaelmas. At the spring red clover is sown upon wheat about May, and harrowed in with a bush harrow; this is mown the year r, and on the leys of it we sow wheat, or oats, the spring following. In e of our stiffer soils, during the fallow year, after manuring and liming, we t cabbages on four feet ridges, which are succeeded by early oats, clover, and at. We keep ploughing between the ridges during the summer, which pro- es the pulverization, and destroys the weeds. When we wish to lay our land

down, we find no method more advantageous than after a summer fallow to sow wheat, and the seeds in the spring following, as they are found to answer after this method better than any other. They should be harrowed in with a harrow drawn with thorns, to prevent them being let in too deep.

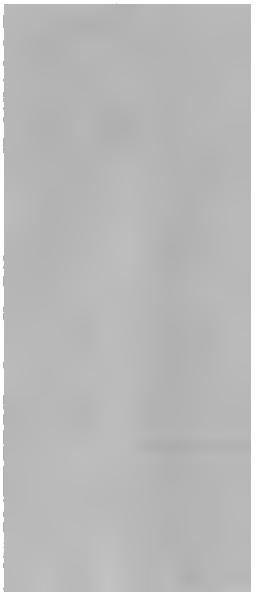
23. In regard to paring and burning, it is frequently practised by these farmers, but it is always a symptom of bad husbandry; because a good farmer will never permit his land to lie in that neglected state, until it wants paring and burning. The general mode, after paring and burning the turf, is to spread the ashes, and along with them a quantity of lime. These are turned down with one ploughing, upon which turnips are sown, on the dry land, and wheat upon that which is moist. I have found by an experiment which I have made upon stiff land, that it is better after the lime and ashes are turned down, not to sow upon one ploughing, but to cross-cut and plough several times, during the summer; by these means pulverizing the soil, and mixing the ashes and lime intimately with it, and thus prepare it for wheat at Michaelmas.

30. There has long been wanted in the husbandry of this country a species of manure which would answer as a top dressing, as well as, when intermixed with the soil. This seems now to be acquired by the introduction of the Derbyshire lime. It is well known, that in the common course of husbandry, our farms can only produce a certain proportion of manure; but by having recourse to this lime, the herbage is improved, and the vegetative quality of the soil is promoted. The stone from which this lime is produced is of a bluish colour and a hard nature. After it is deprived of its fixed air by calcination, it assumes the whiteness of chalk, which is a sure test of its being free from any mineral particles, and of its purity as a calcareous earth. There are immense rocks of this stone about Cromford and Crich, in Derbyshire, which may be easily transported by means of the Cramford Canal, to the principal parts of the county of Nottingham.† The effect of this lime, when used, is so striking, that it may be seen to a small compass where it has been spread, and wherever a heap of it has been laid down the grass is in greater abundance than in any other part of the field. It destroys the moss, and corrects that sourness so much complained of by the farmer in his grass land. The best method of using it is to set it in small heaps; water and spread it while it is quick. This is best done in the latter end of April or beginning of May. In consequence of this treatment, our pastures acquire a sweet herbage, abounding with white clover, and the best natural grasses. In a country where marl is not to be had, this proves a most valuable acquisition to its agriculture. It deserves likewise the same attention from the farmer in all his fallows, as it insures to him excellent crops of corn in consequence of its application.

Brookhill Hill, near Mansfield, Nottinghamshire,
March 25, 1794.

† It may be of use to the public to mention that Mr. Coxe has lately established a kiln at Pinxton, near Mansfield, to burn the Crich stone to lime, which is sold at 2s. 6d. the quarter.

FINIS.



GENERAL VIEW

OF THE

AGRICULTURE

OF THE COUNTY OF

SALOP.

GENERAL VIEW

OF THE

AGRICULTURE

OF THE COUNTY OF

SALOP.

WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT

BY J. BISHTON,

OF KILSAL, SHROPSHIRE.

Gt. Brit.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE

AND INTERNAL IMPROVEMENT.

BRENTFORD,
PRINTED BY P. NORBURY.

M,DCC,XCIV.

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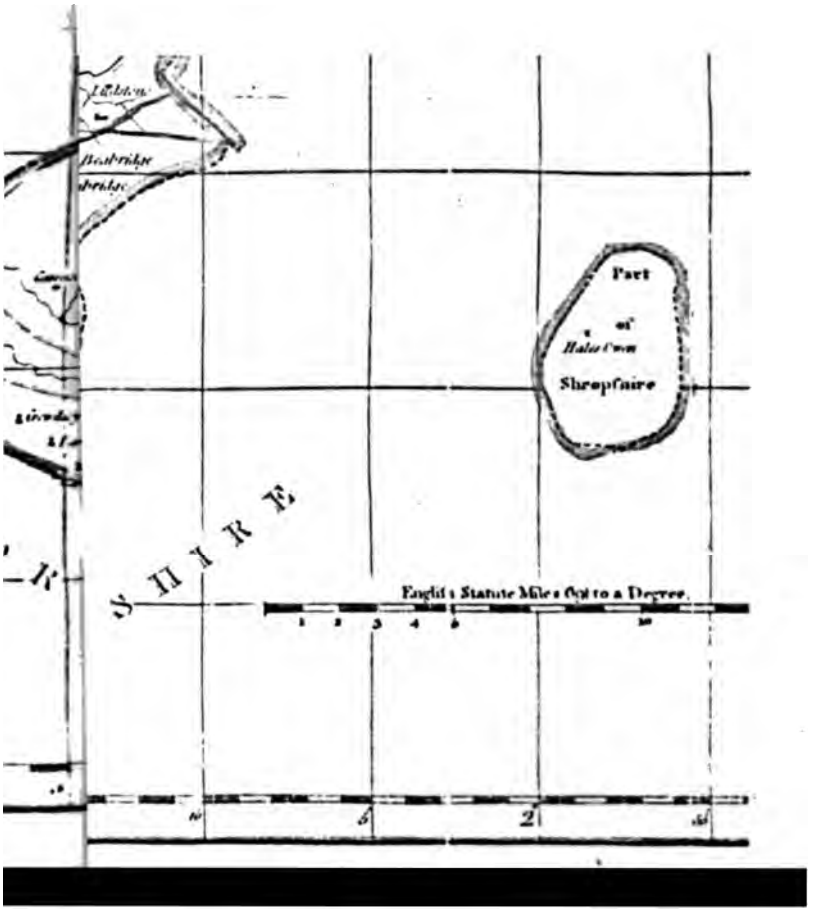
TO THE READER.

IT is requested that this paper, may be returned to the Board of Agriculture, at its office in London, with any additional remarks and observations which may occur on the perusal, written on the margin, as soon as may be convenient.

It is hardly necessary to add, that this report, is, at present, printed and circulated, for the purpose merely of procuring farther information, respecting the husbandry of this district, and of enabling every one, to contribute his mite, to the improvement of the country.

The Board has adopted the same plan, in regard to all the other counties in the united kingdom; and, will be happy to give every assistance in its power, to any person, who may be desirous of improving his breed of cattle, sheep, &c. or of trying any useful experiment in husbandry.

[illegible]CH, 1794.


Part
of
Shropshire
English Statute Miles One to a Degree.

SHROPSHIRE.

EXTENT.

THE County of Salop, according to Mr. Gough, in his last edition of *Camden's Britannia*, is of an oval form, 40 miles long, by 35 broad, and 160 in circuit; it is consequently one of the largest of the inland counties. According to the celebrated Dr. Halley, it contains 890,000 acres, or about a 45th part of England and Wales. It abounds with coal pits, and has also valuable mines of iron, &c. a description of which, however, does not come within the scope of this report.

SOIL.

From Over-Arely, in the south-east, to Melverley, in the north-west, the navigable river Severn divides this county nearly into two equal parts; the north-east side of which is chiefly of a turnip soil, intermixed with a tolerable proportion of meadow and pasture. The banks of the Severn, which are often overflowed, produce hay in great plenty. On the south west side of the river Severn, from Allerbury, about eight miles wide down to Cressage, the lands are chiefly pretty good, and contain pasture, wheat, and turnip land, but very variable; each sort lying in small quantities, and many farms containing each sort. That from Cressage, about six miles wide to Bridgenorth, and from thence to Cleobury and Ludlow, is chiefly mixt soil upon clay, and part thin.

The remainder of the county, and lying more to the south-west side, is very variable, mostly thin soil, some upon clay, other upon rock, extensive tracts of hills, and waste; upon the whole, there is in this county, all sorts of land, except chalk

chalk and flint. And the culture is as various, some exceed ing good and other as bad; and I am sorry to say, more c the latter than tho former; and the defect arises from a variet of causes—the want of judgment in cultivation—of sufficier property—of confidence in landlords—of sobriety and industry

GENERAL STATE.

This county does not contain much common field land most of those having been formerly enclosed, and before act of parliament for that purpose were in use; but the incon venience of the property being detached and intermixed i small parcels, is severely felt, as is also the inconvenience c having the farm buildings in villages, the lands occupie therewith of course being distant, reduces the value in som instances two shillings per acre, in many upwards of one.

There is scarcely an instance of folding sheep, the common being poor, and the farms chiefly small; the flocks are als small. The manure is chiefly farm-yard dung, lime, an marl. There is much draining done by the best farmers both with stone and wood.

SYSTEM OF HUSBANDRY.

The tillage part of what is called the wheat land, or mix soil upon clay, is generally very ill cultivated by a fallow, pre pared only by the first ploughing being performed in May or June, the next in August, and in September it is ploughed and harrowed, therefore sowed in the latter end of October by this mode the land is not reduced, and consequently the seeds and weeds not killed. But it is fair to observe, that the mistaken people who cultivate thus, produce a reason for their conduct, by saying, that if they made their land too fine it would produce less wheat, by the Autumnal rains beating the fine land into a crust, and thereby stopping vegetation And to this mistake and false reasoning, for want of better observation, are owing, the great losses and injuries to tillage farmers

farmers; for this is a ſtrange preparation for the ſucceeding crops of barley, oats, peas broadcaſt, and oats, which generally follow in ſucceſſion, and then it lays in poor ſward three or four years, by being laid down with clover, rye-grass, and weeds, which does not produce a ſufficient pasturage to pay its rent. But if the fallowing were completed in the early part of the Summer, as I ſhall explain under the head of improvements, the land would be cleared and meliorated; and yet when ploughed in the Autumn for sowing wheat, it would not turn up too fine.

There is some paring and burning done here in the thin soil, or sour swards upon clay; but the paring is performed near two inches thick, the sward is laid round a small faggot of wood, large enough, when burnt, to blacken and scorch the sward reared round it, these burners not holding it good to reduce it to red ash. Thus, in its coarse, but scorched state, it is spread upon the land when ploughed, being firſt got into rows to make way for the plough; and most certainly these blackened lumps, &c. do often produce an extraordinary crop of wheat, though upon land not worth more than seven shillings per acre, and the succeeding crops generally answer as well.

GRASS LANDS.

That for hay is ſeldom manured, except one field next the house, and that with ſuch shovellings as are got near it by scraping near the house.

There are some meadows floated, by preserving levels from streams of water, but little of this improvement is done in a masterly manner; though floating has been long in practice by a few of the best farmers, and the use of the spirit level is known by many.

Present state of LIVE STOCK.

Neat cattle, on the north east side the river Severn, are an inferior sort of the Lancashire long horn, in general for the dairies; the south eastern part of the district being chiefly light turnip land, the clover and pasture are mostly appropriated to the dairies, which are small; the cheese is rather ordinary, as much butter is gathered, which is taken off at a good price in the manufactoring towns. On the north west side of this district, and bordering upon Cheshire, the dairies are much larger and chiefly for cheese. Most farmers rear a few calves yearly for the regular supply of their dairies, and the breed is by some made better, by the purchase of bulls from Leicestershire and Lancashire.

On the south west side the river Severn, small dairies are kept both for butter and cheese; many calves are reared,—the bull calves are cut, and many heifers splayed; from three years old to six, they are worked easily by drawing double, eight in a team to a single furrow plough. The capital farmers do not work them more than six hours at a time, and in seed time, when more expedition is wanted, they change them by working one team in the morning and another in the afternoon; by this method, as they say, they get their team labour done at a small expense, for their oxen being sold lean, at from 25l. to 35l. per pair, they reckon their improvement to pay them near 2l. a year each. This is the sort of oxen that the Northamptonshire and Leicestershire graziers buy in the Autumn at Shrewsbury, Bridgenorth, Bishop's-Castle, and Much-Wenlock fairs.

SHEEP.

The breeding flocks are few and small, where there are no commons, but are various in their sorts, as the fancy of the farmer leads him, for in this county there are sheep kept of most of the sorts in England; but those farmers who have commons, generally keep of a size from 11 lb. to 14 lb. per quarter,

quarter, shear about 2 lb. of wool each, worth about 1s. 6d. per pound. Upon some commons, the aged wethers do not require much assistance in the winter, but the ewes and lambs, with the yearling sheep, are either wintered from home or kept in their own farms. This sort, which is kept to stock commons, is generally sold off or fed upon their own turnips, at from four to five years old.

HORSES.

There is no particular breed, indeed very few foals are bred in this county; the supply is chiefly from Derbyshire and Leicestershire, by which means there are many valuable teams; and those farmers who can afford to purchase, find it their interest to have such, occasioned by the restraint laid by the turnpike laws from not drawing more than four horses.

IMPROVEMENT of DRY ARABLE LAND.

I must here observe, that the improvements which I shall point out, are not exactly such as are practised in some of the eastern parts of this kingdom, where the Shropshire farmers must confess, that the arable land is cultivated to much greater perfection than it is here, by the general use of the drill, dibble, or sett; for it cannot be expected, that persons who compose a large majority of the farmers of this county, and who, I am sorry to say, are bad cultivators in the common method of husbandry, are likely to make any tolerable figure in the most complete and garden like methods, until they are more perfect in the methods with which they are already in some degree acquainted.

Therefore, the improvements I would propose for the Shropshire farmers arable land, of the dry or turnip sort, is the fallowing course, &c. which is the same I used upon 400 acres, being part of a farm which was in my own occupation for many years, and until about five years ago,

when I resigned it to a relation, who still pursues much
same method; dividing the arable into four parts, that i
wheat, turnips, barley, and clover.

The wheat stubble is harrowed by drawing the har
one way, which lays the stubble, and returning back: a
the same stroke, draws up the greatest part of the stu
which is gathered by the harrows; and a person follo
them with a fork unloads them and lays it upon heap
shall hereafter mention the disposal of this straw.

From the middle of November to the end of December
stubble ground is ploughed; at the latter end of Februar
beginning of March cross ploughed, and when dry, harro
and if the weather proved suitable, much of the couch
is got out and burnt; but if not so, by this method,
checked in its growth during the seed time, and the bus
is more easily performed, which is to be done in the mo
of May, June, and July, in which months, the fallows
three ploughings and sufficient harrowings to prepare for
nips, for which I laid about eight cubic yards of red
dung, or 72 bushels of clod lime upon each acre; which
ploughed in at the last ploughing, though sooner woul
better, if the dung is reduced enough by that time, or the
so clean as not to require much harrowing. Turnip
one pound to the acre, sowed from the 7th of June t
14th of July, the plants twice hoed, average produce
two pounds fifteen shillings.

As the land became cleared of its crop of turnips, it
ploughed and harrowed, preparative for a crop of barley;
being again ploughed up in buts or lands, five yards v
from the latter end of March to the latter end of April,
sowed with 3½ statute bushels of barley, 14 lb. of commo
clover seed, and one peck of fine rye grass seed to each
the average produce about 40 statute bushels of barley.

The young clover not eaten between December and M
the part mowed, on an average produced about two wa

loads, or a ton and an half to the acre. In the next month of October, ploughed in nine inch furrows and six inches deep, and sowed with 2½ bushels of wheat, produce about seventeen bushels.

The turnip crop I dispose of generally in the following manner: first, by drawing home at the beginning of November, those under the hedges, and some of the largest over the rest of the field; taking all up where the horses and carts are to pass. When the tops and roots are cut off, carry them home, and place them in heaps of about 12 cart loads each, in form of the cone of a wheat rick, cover a foot thick with straw and thatch. These serve as a resource in time of frost and snow, for the beasts that are stall-fed, of which I generally had 20 yearly, and a man and boy, with one horse and cart, supplies them; leaving as many turnips to be eaten upon the land with sheep, as to insure fertility enough for the crops of barley, &c. for the barley being too rank, generally spoils the young clover growing with it. Another advantage obtained by stall-feeding with turnips, is making a large quantity of straw into manure at home; which is the best use that can be made of it, as straw food is not an improver.

The stubble straw, as I mentioned before, is made into manure, by being carried and ricked up for litter bythe side of a sheep-fold in the centre of these 400 acres, in which the sheep feeding upon turnips in the winter are lodged every night, from the middle of November to the beginning of March, where a servant goes every morning before five o'clock, with a small quantity of hay or clover, which is laid in a narrow cratch fixed to the pales all around the fold; by this method when any are disordered they are sure to be found and slaughtered, and the loss is but trifling. But since I used this method, that loss has been but seldom the case, as the comfort the sheep receive by their being lodged in a warm fold upon the stubble, and each taking a bit of dry meat in the morning, are reasons, I believe to operate against the bad

effects

effects of the cold food taken into the empty stomach; and which is supposed to destroy many every year, to such a degree, as to occasion some people to decline pasturing sheep upon turnips. My turnip sheep are generally bought in the Autumn from Leicestershire.

I would beg leave to recommend the preceding method of cultivating dry lands, to those who have been in the custom of long tillages, and without the use of general turniping, to be continued for so long as two courses of tillage, that is eight years, by which time their land will be clean and more fit for what I conceive to be a more beneficial mode of husbandry, and which mode I now pursue, namely, first, turnips managed and manured as before; second, barley; third, peas in rows one foot asunder, hand hoed and weeded; fourth, barley, with 10 lb. of common clover, 4 lb. of white Dutch clover seed, 2 lb. of trefoil seed, and 1 peck of fine rye-grass, 8 cubic yards of rotten dung, or 72 bushels of lime laid upon the young clover in November; fifth year mow or graze, the sixth graze till October, and the seventh plough and sow with wheat as before; the land mucked for turnips, and lime, or compost of lime and earth or mud, &c. on the young clover in the Autumn. This I believe to be a more profitable course than that which I have heretofore practised, affording a greater change (and thereby obviating the failure both of turnips and clover) and occasioning more grass land, which for many years has exceeded the tillage in point of profit.

IMPROVEMENT of WHEAT LANDS, or MIXT SOIL upon CLAY.

The turf being well ploughed and laid dry before Christmas, in the following month of April sow with 4½ statute bushels of oats; plough and lay dry in the Autumn, and in the months of May, June, and July, give it three good ploughings and harrowings, rollings, &c. so as to reduce it; being drawn up and laid dry, and continuing in that state to the

the middle of September, though made both fine and clean, gets an adhesive and binding quality, and consequently works lumpy, and therefore has the texture and quality which the farmer, by mistake, (as I said before) is afraid of losing, by making his land clean. It is in the the months of May, June, and July, when the sun is powerful, that land is to be cleaned; a ploughing in August is seldom of much worth.

If manured with lime, lay 80 bushels upon an acre; if with dung, 10 cubical yards to each acre, either ploughed under at the July ploughing. From the 20th of September to the 10th of October, sow wheat 9 statute pecks to the acre, after having soaked the same not more than eight hours in mild brine, and dried with lime to prevent the smut. The next Autumn plough the corn stubble, and at the end of March plant beans or peas in rows one foot asunder, hand hoe and weed them. Plough in the Autumn, and sow oats in the Spring, and lay down with 10 lb. of red, 4 lb. of white Dutch clover seed, and one peck of rye-grass seed to each acre. Manure the seeds in the Autumn, let it lie in sward two or three years, as it may be required. At next breaking up plant with beans, hand hoe and weed; next Autumn sow with wheat, then with beans in rows, hand hoe and weed that crop; Oats and lay down with seeds as before. In lieu of one of the hoeing crops, if the land is not too wet, potatoes may be planted, which would be found very profitable to the wheat land farmer; being very useful food for feeding or milking cows in the Winter, as they produce much sweet milk. I would fallow for the first crop in one tillage, and hoe the next, and so proceed alternately; the Summer sun to wheat lands is certainly useful, the manuring with dung or lime also alternately. Where marl is to be procured at convenient distances, nothing turns to more profit; upon open soils, with either clay or dry bottom, marl laid upon the sward in the Autumn, and to lie one year, is generally best;

particularly

particularly if the marl is not perfectly good. Lime is sure to pay well the next tillage.

Improvement of PASTURE & MEADOWS.

Suffer no weeds to seed, nor mole or ant hills to continue; the land to be either mowed or grazed bare once in every year. Such as is mowed should be manured in the Autumn of every second year, with dung, or compost consisting of dung and earth or mud, at the rate of about 10 cubic yards to the acre. Close attention should be paid to examining the streams of water, by the assistance of the spirit level, for generally the water from the summits will be found to cover much more land than is expected; and where it takes its course through several properties, it may be agreed to be used to the mutual benefit of the owners, by stipulating the times for each to use it, in due proportion to the quantity they respectively have suitable to that purpose. I know of no improvement upon grass land, (after being drained when necessary) greater than this, though but little attended to in comparison of the large tracts that may be so improved.

There is another improvement, which is carried on to great perfection, upon the lands subject to the floods of the rivers Severn and Vernieu, in Montgomeryshire, bordering upon this county, by embankment; but the banks should be fixed at a discretional distance from the side of the river, so as when embanked on both sides, the course of the flood may not be too much narrowed. In many instances it should be from 40 to 50 yards; yet there has been a great inconvenience attending this improvement, for though the produce of hay, &c. has by this means been all saved, yet this land has been found to be much less fertile by the water being kept off, and in some places it has occasioned the banks to be disregarded; but there is an easy remedy for this, by fixing at proper distances, troughs with swing gates or valves, by which the water may be suffered to overflow as usual,

usual, from November to March inclusive, and be shut out in the summer months; thus the fertility would sustain no injury, and the produce be preſerved.—This is an improvement of great utility, and more neglected than that of floating.

Conſider for a moment the immenſe quantity of hay, as well as paſturage, that may by this practice be saved, particularly in wet ſeaſons, and in moſt ſituations at a ſmall expenſe. I may venture to ſay, that many thouſand acres may be preſerved at from 3d. to 6d. per yard in length, but 10s. per yard is trifling, compared with the improvement which may be made in many ſituations. There is a bar to this improvement, however, in many places, by property being intermixed, for which reaſon there ſhould be commiſſioners appointed by parliament, with power to make ſuch improvements, when called upon ſo to do, by the perſons forming a majority of landed property in any certain diſtrict, which commiſſioners, ſhould have ſuch power as the Commiſſioners of the Deytheur and Street-marſhal in the Montgomeryſhire Inclosure act, where near 3000l. has been laid out for that purpoſe, and by which many thouſand acres are preſerved from floods.

DRAINING

Is now generally well underſtood, but in many ſituations, particularly in clay countries, the materials, as ſtone, &c. are very expenſive, occaſioned by getting, and the diſtance it is to be carried; and thin ſoil upon clay requires the drains in many places to be not more than from 6 to 8 yards aſunder, which conſumes large quantities of materials. I have made what I call, a brick arch, for that purpoſe, full an inch thick and a foot long, nearly of the ſhape of a ridge tile, but being not more than 5 inches wide at bottom, and 6 inches ſemi-diameter, it cannot poſſibly be uſed in building; but ſuch having been made at a brick kiln, the exciſe-officer thought

them taxable, and charged them 2s. 6d. per thousand, as common bricks. Two members of parliament did me the honor to represent this at the proper office, in London, in hopes of getting off the tax, which has not yet been done. This has checked the use of them, for nothing can be more irksome, than a tax upon a material, to be used in an essential improvement upon land; besides, there can be no more lawful pretence for taxing the arch of that shape, under the brick act, than there is for taxing the earthen pans and cups at a pottery. These arches may be made, when common bricks are at 15s. per thousand, without tax, at about 30s. per thousand, which will lay a cavity of six by five inches, and near 340 yards long. The expence of laying is trifling after the drain is cut, and if the soil is thin, the filling up is soon performed by laying the sod upon the arch, sward downwards, and casting away the clay. If the drains are deep, lay wood, rock stones, or screened gravel upon the arch, and the sod upon the top of those, but no clay. If there are sand pans, or parts in the drains that would cause the arch to sink, lay two small bits of wood across, under and near the end of each arch. One of these arches shall be sent to the Board, if required.

ROADS.

The roads in this county, both turnpike and private, are generally bad; the private ones, particularly in the clay part of the county, are almost impassable to any but the inhabitants, notwithstanding there have been many acts of parliament, with a view to make them perfectly good, which end, if it could be obtained, would be a moft important step to improvement in agriculture. There are already sufficient resources given by divers acts of parliament, for enforcing ſtatute duty, and raising the supplies by assessments upon the inhabitants; but in several of the arrangements, I humbly conceive, the acts are very deficient, and which occasions

the general failure in the desirable end for which they were passed.

IMPROVEMENTS of the ROADS.

In lieu of surveyors in each parish, (who are generally chosen in turn, and consequently have neither time nor experience sufficient to act properly, and are generally not inclined to exert themselves by enforcing the duty, &c.) I would propose for the magistrates to have power to appoint a proper surveyor with a salary, who should act under their direction, and be amenable to them for their conduct; such surveyor, to undertake the arrangement of a certain district, (say 10 miles square) whose duty it should be, to employ deputies, to call in and see the the statute duty done under his direction: by this means the forming of the roads, which is the first principle, would be done in the most approved method, and the statute duty regularly called out. There may be an inspector, an inhabitant in each parish, appointed, and chosen yearly, whose interest it would be, as well as his duty, to act as a check upon the general surveyor and his deputy; this office being easy, might be filled by one of the most liberal persons in the parish. I apprehend that an arrangement of this sort would very soon insure good private roads. And something like the following would procure us good turnpike roads also, namely; The trustees of all the turnpike roads throughout England, to be obliged to erect weighing engines, at all their gates or bars at which tolls are received, on or before the 24th day of June next, the expense of such erections to be repaid to them, by their being empowered to add to their present respective tolls, any sum to be paid by such carriage to be weighed, not exceeding so much as has been heretofore paid within one year last for the tolls; such sums to be paid, until all expense of erecting the said engines shall be fully repaid. The account of such repayment to be made out, and settled by the clerks and gate-keepers belonging to the respective roads, and

to be attested upon oath before two justices of the p
And from and after the said 24th day of June next, it
be lawful for all carriages, to be drawn with any numb
horses, along any turnpike road.

But to prevent the injuries done to the roads, by the
burdens too frequently drawn along them, it should b
acted, that from and after the said 24th day of June, it sl
be lawful for all trustees appointed by any act or acts of
liament, for the repair of any turnpike-road, or any fi
more of them, and they should be required at a public
ing, to be held for that purpose on or before the 24th d
April next, to order to be erected at all the gates and
which they have erected or shall erect, for the receivi
tolls, or upon any part of the road within their respecti
risdictions, and at such a distance from any turnpike, ba
toll-gate, as they shall think requisite and expedient, to
and cause to be erected, a crane, machine, or engine p
for the weighing of carts, waggons, or carriages conv
any goods or merchandize whatever; and by a writing s
by them, or any five or more of them, to order all and
such carriage or carriages which shall pass loaded th
any such gate or bar, to be weighed, together with the lo
thereof, and for them, or any five or more of them,
any person or persons impowered by any five or mo
them, to receive and take, over and above the tolls al
granted, or hereafter to be granted, the sum of 10s. for
hundred weight of 112 lb. to the hundred, which
waggon or cart hereafter described, together with the lo
thereof, shall weigh, over and above the weights her
allowed to each of them respectively; (that is to say) to
waggon or four wheel carriage, having the fellies or roll
the wheels of the breadth of 16 inches, 8 tons in Summe
7 in Winter; to every waggon or wain, having the axl
thereof of such different lengths that the distance from
to wheel of the nearer pair of the said wheels be not

than 4 feet 2 inches, to be measured at the ground, and that the distance from wheel to wheel, of the other pair thereof, be such, that the fore and hind wheels of such waggons and wains, shall roll only one single surface or path of 16 inches wide at the least, on each side of the said waggons or wains, and having the fellies thereof of the breadth of 9 inches from side to side at the bottom or sole thereof, 6 tons 10 hundred in Summer, and 6 tons in Winter; to every waggon or four wheel carriage, having the sole or bottom of the fellies of the wheels of the breadth of 9 inches, 6 tons in Summer, and 5 tons 10 hundred in Winter; to every cart, having the fellies of the same dimensions, 3 tons in Summer, and 2 tons 15 hundred in Winter; to every waggon having the sole or bottom of the fellies of the wheels of the breadth of 6 inches, 4 tons 5 hundred in Summer, and 3 tons 15 hundred in Winter; and to every such waggon so constructed as to roll and actually rolling a surface of 11 inches by the wheels thereof, 5 tons 10 hundred in Summer, and 5 tons in Winter; to every cart having fellies of the wheels of the same dimensions, 2 tons 12 hundred in Summer, and 2 tons 7 hundred in Winter; to every waggon having the sole or bottom of the fellies of the wheels of less breadth than 6 inches, 3 *tons* 15 *hundred* in Summer, and 3 *tons* 12 *hundred* in Winter; and to every cart having the fellies of the wheels of the same dimensions, 1 *ton* 15 *hundred* in Summer, and 1 *ton* 12 *hundred* in Winter. And if such trustees as aforesaid shall neglect to erect such engine at their respective gates by the said 24th day of June, then it shall and may be lawful for any mortgagee or mortgagees of the said gate or gates to erect such engine or engines, and to take upon them the same power as the said trustees were by the act invested with, and under the same regulations, on or before the 29th day of September next; and if the said trustees and mortgagees, shall neglect, to erect such engine or engines, by the respective times herein before stipulated for erecting the same, then it shall and may

be lawful, for all horses, carts, and other carriages, from and after the said 29th day of September next, to go through and pass along such road or roads, without any obstruction or payment for tolls whatsoever, until such trustees or mortgagees, shall erect such weighing-engine or engines as aforesaid, and occasion the same to be regularly used; any thing contained within the respective acts for turnpike roads, to the contrary notwithstanding.

OBSERVATIONS on the good Effects of the above Alterations, with Reasons for making the same.

First, The weighing-engines will sufficiently prevent carriages of all sorts being over loaded, which will be a preservation of the road, whereas, the restraint upon the number of horses does not answer the purpose; for a short and overpowered team, does more damage to the roads, than a greater number of horses, which draw easy, and consequently pass along much quicker. That disagreeable restraint will be thereby made unnecessary, which empowers and encourages some poor indolent wretches to wander about the country, with their ready printed notices, to catch a prey, which when got, is lavished away in drunkenness, debauchery, and disorder; and if they fail in their lawful attempt, which is often the case, and perhaps distressed to the greatest degree, being despised by persons of all denominations, pursue poaching and fowl stealing, which lead to greater acts of thievery, of which there are many instances; for all the convictions are grounded upon the poor wretches, as above described, being by the law allowed to be the credible witnesses, who obtain the reward to the amount of £.5. or more, when the team owner's servant or servants are all deemed perjured: so that as the act now stands, no one is safe from these convictions.

The occupiers of farms in general, particularly those upon the middling sized ones, find themselves very much oppressed and injured by the law now subsisting for regulating the turnpik

pike roads, by their being restrained from drawing more than four horses in waggons, the fellies of the wheels thereof being under six inches broad. Were farmers permitted to draw any number of horses, it would be of great public utility in lowering the price of those animals, which is now enormously high; the farmer would find it his interest, as formerly, to keep breeding mares, which, with the colts they breed, may be made useful great part of the year, provided they may be worked easy. The law as it now stands, acts nearly as a prohibition to farmers breeding horses; for a breeding mare, or a colt under 5 years old, is not fit to draw one of four in a waggon, with no more than 60 bushels of barley or wheat, which is the common load of the Shropshire or Staffordshire farmers, neither of which being more than two tons, which is considerably under the weight the present act allows to be drawn on the turnpike roads in Winter. Before the said turnpike laws were in force, the farmer's team, to draw his 60 bushels of wheat or barley, consisted of six in number, two of which, at least, were mares either in foal or sucklers, two colts, one of them two, the other three years old, which were never oppressed or hurt by their work; consequently a succession came on, and the owner had one or two good sound colts to sell off every year to the harness or draught, as they best suited. Good waggon horses were then bought at from £.10 to £.15. each, which are now by their scarcity from £. 25 to £. 35, and those for the coach, that is the light active half blood horses, are from £. 40 to £. 60.

Another evil occasioned by this law is, that such farmers are obliged to keep horses of the largest size, which consume the produce of much land, by eating a large quantity of corn, when the smaller horses, working easy, seldom eat any.

It is humbly conceived, that upon this principle, a law for regulating the roads may be enacted, so as to answer every good design of the present, and at the same time relieve those individuals

individuals who are exceedingly injured, and also be of
neral utility. I hope I shall not be thought to digress
much from the subject of agriculture, when it is consid
that good roads are the first improvement to be made upo
estate, where the roads are bad; and I verily believe, t
petition to parliament, to obtain the above alterations, w
be signed by every person interested in the counties of S
and Stafford. I have taken the liberty to send one encl
for the society's inspection, and if some such method sha
recommended by the society, I beg to be considered at
service, to send a clerk round the counties, for the signa
of those who may approve of the measure.

IMPROVEMENT of the COMMONS.

On this head surely it is not necessary, at this time of
for myself or any other person, to say any thing more
inclose them all as soon as convenient. The idea of lea
them in their unimproved state to bear chiefly gorse bu
and fern, is now completely scouted, except by a very few,
have falsely conceived that the inclosing of them is an ir
to the poor; but if those persons had seen as much of the
trary effects in that respect, as I have, I am fully persu
their opposition would at once cease. Let those who d
go round the commons now open, and view the mise rable
and poor, ill cultivated, impoverished spots erected, or r
thrown together, and inclosed by themselves, for which
pay 6d. or 1s. per year, which, by loss of time both t
man and his family, affords them a very trifle towards
maintenance, yet operates upon their minds as a sort of
dependence; this idea leads the man to lose many days w
by which he gets a habit of indolence; a daughter kep
home to milk a poor half starv'd cow, who being ope
temptations, soon turns harlot, and becomes a distressed
norant mother, instead of making a good useful servant.
surrounding farmers, by this means, have neither industr
labou

labourers or servants, therefore, the commons with the cottagers around, become a great burden instead of a convenience; for moſt certain it is, that in all the countries where this is the case, the labourers are generally indolent,—and the contrary is the case where they live under the farmer, in comfortable cottages, with only a quarter of an acre of land, work every day in the year, and have their children taught to read, and put out to labour *early*. This I have been a witness to, not only in my own parish, where we enclosed a common and fields 25 years ago, but in many other places since, where I have been concerned. To do any thing for a poor man and his family (who are to be maintained by their own labour) which gives them the habit of indolence, is the same as taking the rich man's income, for both alike become helpless. I am aware that it will be said by some, How then are the poor to obtain houses? I answer, by taking off the objection to houses being built by their employers, the freeholders, and opulent persons, as the laws of possession now stand. The objection to poor possessors are, that as soon as the owner of a house takes into it a poor person and family, he finds himself bound to them, even if thieves or persons of the worst behaviour. The possessor, feeling his weight in this respect by his poverty, puts the landlord to defiance; and if he should not know this himself, he can easily find those who will instruct him to with-hold possession, so as to put his landlord (under the best management on his part) to 10l. expense, before he can eject him, which is at once 6 or 7 years income of the premises..

There cannot, I conceive, be any danger of opposition to this alteration; for the gentlemen of the law, whose professions are liberal as well as profitable, for so good a purpose, will readily give up the loss of these poor clients, in the supporting of whom, against their landlords, they have but seldom got much credit; therefore, I would propose for houses with land, at any rent not exceeding 2l. 10s. yearly, and not being

under an agreement in writing to the contrary, the tena having had six months previous notice in writing, from l landlord or agent, for quitting at the next lady-day, and r quitting, but holding over by the space of 3 days, that t owner or his agent, may apply to one of his majesty's justi of the peace, who should, with all convenient speed, su mons the parties and their witnesses, and if upon such quiry and hearing such notice, as aforesaid, it shall be fou to have been regularly delivered, at the party's dwellir house, &c. that in such case, the justice shall grant his w rant to the constable and parish officers where such compl arose, to empower them to serve the officer of the parish which they are ordered to be removed, with a notice of order; and if such officer, for 3 days, omits giving a secu for abiding by the decision of the court of quarter sessio then to immediately take and convey the said tenant and mily, with their goods, to the officers of the parish whereu they belong, who should be directed to provide for them a cases of other removals. But in case of an appeal to the sions, by the parish to which they were removed by agreem aforesaid, the removal to be postponed until a decision made.

This alteration, I am fully persuaded, would occasion p sons in general to build houses for labourers and artific whenever they are wanted, and would be a means of p venting poor persons, from making miserable erections, u inconvenient places within the wastes and lanes, which in course of 20 years generally became the property of Lord the respective manors; and the poor, as before stated, wo have comfortable habitations, in proper situations conven to their respective labour, and not incommodious to country gentlemen or freeholders who are their employe and that subordination of the lower ranks of society, wh in the present times is much wanted, would be hereby c siderably secured.

CONCLUSIO

CONCLUSION.

Mr. Stone's ingenious production, on the Agricultural state of the County of Huntingdon, has left but few general observations for me to make; and I am ready to subscribe to most of his.

Leases have of late years been much exploded by gentlemen of landed property, many of whom having formerly granted excessive long terms, have been induced, by the injury sustained thereby, and some other reasons, to object to any lease! This is a contrary extreme, and to obviate that difficulty, I have formed a lease (a copy of which is sent to the honorable Board) which has been so fortunate as to meet with the approbation of both landlord and tenants in general; the former being left in some degree at liberty, and the latter made confident of having an allowance for their improvements, from which they may not have had a proper return of profit, before they were compelled to quit. But where gentlemen have agents who are experienced in husbandry, they cannot do better than to suffer such to assist the tenants, by paying for part of their draining, marling, watering, embanking, &c. for which they may, in proper and fair time, obtain from 10 to 20 per cent. for their money: but, extraordinary it is, that very few gentlemen, will come into this measure, of assisting their tenants with money for improvements; not even those who are satisfied with 3 per cent. for their capital, when they purchase additions to their estates.

POSTSCRIPT.

Kilsall, April 18,

I AM honored with a letter fr
President of the Board of Agriculture, desiring additio
formation respecting the county of Salop, under fifteen
I am sorry my account is not sufficiently full
purpose of the Board; if any material information w
could give is wanting, it must be attributed to the
plicity of my necessary engagements, which at this
the year are more particularly pressing, and which mu
be offered as my apology, if I make but short and im
answers to the following queries, which I shall state
order they are presented to me.

QUERY I.

What is the general state of population,—is it enc
or decreasing?

I have no hesitation to answer to this question, t
population of this county is certainly encreasing, a
been rapidly so for some time past; the encreased bus
working the mines of this county,—the great dem
coals, both for home consumption, and also for exp
by the new canals into other counties, more particul
extended iron works at and around Coalbrookdale, h
quired the employment of a great number of additional
and consequently encreased population. And the encr
manufacturers necessarily makes an encrease of husba
for in a neighbourhood where there are considerable
factures, and consequently a great consumption of pro
land becomes more valuable; it also gains additional n
and there is encouragement, from the high price of pro
to cultivate and improve it, which cannot be done
inha

inhabitants, but with such encouragement, inhabitants are found soon to be produced; for besides those husbandmen and their families, who are tempted by an encrease of wages to remove from other places, it is found, that where the labourer has constant work and good pay (as he has in these situations) he naturally marries early and produces many children, who find early employment and maintenance; so it will be found, that flourishing manufactures in this county, as in others, encrease population, not only by the encreased number of workmen employed, but also by adding to the number of husbandmen and labourers employed in the cultivation of the neighbouring land. And although the cultivation of land in this county is in the major part very defective, yet it must be observed, that in the eastern part of it, bordering on the manufactory of Coalbrookdale, Ketley, and Lilleshall mines, &c. on one side, and the Staffordshire iron, &c. manufactories on the other, the improvements in Agriculture have been very considerable, and both the produce and population greatly encreased.

About twelve years ago, this fact respecting population was made very apparent by the enquiries of the Rev. Mr. Howlett, vicar of Great-Dunmow, in Essex, and particularly so in the parish in which I live, the rector of which, the Rev. Mr. Woodhouse, in his correspondence with Mr. Howlett on this subject, was enabled to present him with a statement of *facts*, by which it clearly appeared, that the population of this parish had been nearly doubled, since the time of the revolution, yet without the assistance of any trade or manufacture *in the parish*, but merely from a more extended and garden-like cultivation of the land, from the introduction of the turnip husbandry, and by an enclosure of field and common lands. This letter Mr. Howlett has printed, as an appendix to his enquiry into the influences of enclosures, second edition, 1786. Enclosed is the pamphlet for the inspection of the Agricultural Board, and is worth the attention

of those who have doubts on the subject of population. I may further add, that since the year 1782, when these observations were made, the population of this parish has been encreasing; most certainly the inoculation for the *small pox*, and the encreased knowledge of the physical practitioners in the cure of *fevers*, has been most essential to population throughout this kingdom.

II. What is the quantity of waste lands in the county,—to what applied at present,—and how far capable of improvement?

This question will be found to have been answered in a good measure, in the 8th, 24th, and 25th pages of the foregoing observations. In comparison of many other counties this may be called an enclosed one, particularly in respect of field land; yet there certainly remain many commons though few of large extent, which would still pay well the expense of enclosure. One of the most considerable is the Morf, near the town of Bridgnorth.

As to the extent of the commons, I would beg leave to advise, that a surveyor may be sent into each county, with instructions to take as many lines over each common, as would pretty nearly ascertain the quantities; this method would not coft the Agricultural Board more than thirty guineas, on an average, for each county; and at the same time and expence, the worth of the wastes may be ascertained by supposing them in a state for enclosing, for in their open state the value of the best is but trifling.

III. What is the extent of woodlands, their annual produce in underwood, timber, &c.

This is a question I cannot answer, but there is no doubt but oak timber now planted, would pay the common rent of the soil; and I hope the time is not far distant, that government will direct a considerable quantity of the crown lands to be planted, and to be put under the inspection of daily surveyors, whose attendance should be as rigidly looked into

and checked, as that of the excise officers. Small houses should be erected at convenient distances round the plantations, for their habitations.

IV. What are the size of estates and farms, and what the nature of tenures?

The sizes of both the estates and farms in this county are very various; — here are estates of noblemen and of several commoners, which cover from ten thousand to twenty-five thousand acres each; while there are an infinite number of freeholders and yeomen's estates of all inferior sizes; and the farms are as various, from that of from one to five hundred acres on the eastern side of the county, to the little farm of twenty acres on the borders of Wales. There is much copyhold tenure, but of easier customs than in the neighbouring counties.

V. What is the quantity of seed usually sown, and what the general produce of the different sorts of grain?

By referring to the 7th. page of these observations, it will there be found, that this county consists of the utmost variety of soil, consequently no general answer can be given to this query; and the practice of the best farmers on the dry arable land, which makes a considerable part of the eastern side, will be found in pages 11, 12, 13, &c. of the preceding remarks.

VI. What is the average rent, poor's rates, and tithe compositions—whether much tithe is taken in kind?

For the reason assigned under the fifth query, it is difficult to give a particular answer to these questions; but the average price, exclusive of wastes, may be about 15s. per acre titheable.—The poor's rates are also very various, and have been enormously encreased of late years.—But little tithe is taken in kind—mostly by fair and equitable compositions, which are in some places renewed every year, in others, are let for a longer term. I have within the distance of twenty miles round my own neighbourhood, for these last twenty years,

years, valued yearly a great deal of tithe, which has been let to the occupiers of the respective farms from which it was issuable, and within that period, the same practice has become pretty general; this method of letting the tithes to the respective farmers is very much less oppressive, than what was practised formerly, when the custom was, to let a whole parish to one person, who gathered both straw and grain to his own barn, by which the occupiers of the lands were exceedingly troubled by setting it out, besides the inconvenience and delay it gave them in getting their harvest: under these considerations, the farmer, who is permitted to take the tithes yearly at a fair price, thinks himself much better off by the surveyor drawing a line of equal profit to the vendor and vendee, than by having them gathered. But yet there are great quantities of tithes, in this kingdom, *collected*, by which the farmer is particularly injured, not only by the inconvenience before stated, but by the straw and hay, amounting to a tenth part yearly, being taken from his farm, which is particularly felt, as a very heavy loss in the return of manure, and indeed amounts to an irreparable one, provided the land is situated at such a distance from a town, as to render it impossible to fetch manure to profit, that is at the distance of six or seven miles; besides the gathering and carrying off the tithe, is eventually an injury to the owners of the tithe, for were that one tenth of the manure yearly returned to the land from which it is gathered, in course the increase would be much greater, as it operates by accumulation, like compound interest upon money: But suppose this mode of letting every occupier their own tithes were to be enforced, that does not give the satisfaction which is required, for there are some unreasonable violent complainants against tithes, whom it would be impossible to satisfy; such who are land owners, forget that they purchased their estates cheaper by reason of the tithes being issuable;—the tenants also forget that they take their terms at a cheaper rate on that account.

D...

But there is a relief wanted by, and ought to be given to the complaints of *moderate* and *reaſonable people*, complaints which are well grounded, and while subsisting, serve as useful fuel to the fire of the violent and designing, who cry out, that tithes are got to an enormous pitch, are exceedingly higher than formerly, are unreasonable and oppressive, "we will "have none, for every clergyman ought to have a fixed stipend "allowed him per year, and all of them *equal*." The moderate and reasonable, whose complaints deserve attention, say, "let the parson have his reasonable due; if I get large crops "or better than my father did, and a better price for my "produce, I can better afford to pay it. The only real hard-"ship I have felt from tithes is, such as this, the year before "last I marled a piece of land of ten acres, and it cost me "five pounds per acre, for I drew the marl near a mile, and "it is a sort of stuff that requires, after being spread, to lie "open to a winter frost, before the land is ploughed, in order "to reduce and incorporate it with the soil. I drained the "field at the expense of five pounds per acre, and ploughed it "five times the last summer, and now my tithes are to be "valued, and consequently I must give the value of one acre, "or the produce of it will be taken from me, before I have "had a shilling of return." This is very hard and unreasonable, such complaints as these are very common and very just, and upon enclosing of wastes the hardship is often greater. Those complainants are the persons I wish to see redressed, not only on their own account, but for the sake of the community at large; for gathering the tithes in kind is very burthensome, and if they are valued yearly and sold at a fair and just price, they are still a check upon improvement as above stated. I speak from long experience, and have myself, both felt and seen the happy effects of a better system, as hath the rector of this parish, by his liberality in granting leases of his tithes, for a moderate length of time, which has been a great means of encouraging improvements; and I beg

leave to say, that I think it would have a very good ef
and would be drawing a very fair line between the own
tithes and the occupier, and such a one as no reasonable
son could ask more, were a law to be made, that after a
tain distant day, no person, either of the clergy or l
except both parties agree to the contrary, should gather
tithes in kind; but that from six to twelve referrees, or c
missioners, should be appointed in every county, accordin
its size, half of them to be nominated by the bishop of
diocese, in behalf of the clergy, the other half by the jus
at sessions, in behalf of the laity; which commissio
should be sworn to do justice, and be liable to pains and
nalties for a contrary conduct; and such persons dying
refusing to act, to be replaced by the choice of the s
powers who chose their predecessors, so as to keep an e
number on each side; that the owners of any tithes fo
time being, or any person whose lands they are issu
from, by three months notice, to be given by either part
the other, of their desire for an estimate to be made of
tithes, the person giving such notice, and also the perso
ceiving it, within a stated number of days afterwards, sh
each apply to a separate commissioner, each of whor
proper time or times at their direction, but within a lin
time, should view and estimate such tithes; but in case
disagreement between those two commissioners, they sh
name a third, whose determination, in writing, the for
be inserted in the act, should be conclusive, and binding
the parties for the term of ten years, that is, upon the ov
of the tithes, his heirs or successors, as the case may be,
also upon the occupier of the land and his successor, to
same, for at his quitting the possessions, the lease of
tithes should fall to the successor.

The rent to be made payable quarterly, for which
stock, &c. upon the premises, from whence the tithes
issuable, to be liable to distress; and if the landlord sh
dis

distrain for rent, he should be accountable for so much thereof, as may be due for the tithes, not exceeding one quarter's rent thereof, and this method from time to time, at the option of either of the parties, to be pursued as the leases shall expire, so that a lease of the tithes may always exist under such estimate.—These are the outlines of what I think may be made very useful, when considered over, and the arrangements thereof made compleat: by this means the clergymen, in their dealings with their parishioners, will be personally out of the question; and as the justice to be done them, will be left in the hands of other persons, they will thereby avoid all disagreeable cavil and animosity; and after this, I do not conceive that there will remain the least ground for complaint, from any fair and reasonable person; for the cultivator will have time to take the fair advantage from his improvement, which by this proposed arrangement he was, and ever will be, encouraged to make; and the owner of the tithes, at the expiration of the ten years, will, under the proposed reference for the next ten years, obtain a much higher rent; this arrangement will have its good effects not only for the clergy, but also for the impropriators of tithes, who are often made very unpopular by their dealings in the disposal of their tithes, for by this arrangement they will be likely to obtain an higher rent.

VII. What proportion of the county is in common fields,—what are the advantages that have resulted from the enclosure of such?

The answer to this query will be found under pages 8, 24, and 25, and query the 2d of this observation.

VIII. What are the modes of tillage,—the draught, whether horses or oxen, which found best,—the implements?

The modes of tillage have been described. In the strong lands, four or five horses are used to a plough, or six or eight oxen; the oxen are preferred for ploughing in the strong lands, but horses for the road business; that being the case,

horses are best adapted for small farms, as oxen are fo ploughing upon large ones. The single plough, with tw wheels under the fore end of the beam, is the best sort o plough for level land, and almost in general use, in the turni soils; two horses, either coupled, or at length, with a boy plough an acre and half per day with ease.

IX. What plants are cultivated in Shropshire not in usua courses, as hops, hemp, flax, cabbages, potatoes, &c. and t what extent raised?

Hops are cultivated on a small part of the Herefordshir side of this county; the other articles are only got in smal quantities. Potatoes ought to be got in large quantities, b those farmers who are situated within five miles of town manure; for such may get them to fair profit, at five penc per bushel; and one bushel per day, for a cow, with a ver small quantity of hay, will produce sweet milk and butte to great profit in the winter months.

X. What are the prices of labour, provisions, and fue and whether coal or wood?

The prices of labour are various in this county, accordin to its population. In the eastern part where I inhabit, it ha been for twenty years, the custom to give a constant la bourer 7s. per week, through the year, with the addition c what is equal to about 2s. per week more, in the harvest quarte but the custom much prevails now, of letting a great part c the work to the labourers, particularly threshing, by which good hand will generally earn 1s. 6d. per day, and som much more. The allowance of beer, in this county, bot Winter and Summer, is generally given to those who tak their work, in the Winter 3 quarts each, in Summer 4 and in harvest from 5 to 8 quarts of strong and small beer.— This customary allowance is excessive; but there are fev parts of England, where the harvest is got in with such spiri and expedition: but the custom of such excessive drinkin

ough

ought to be checked, and has been done in the best governed families,

The prices of provisions vary a little according to the population, but the canals will regulate that very much. The returns made to government, will best shew the general prices of grain, &c,

The whole county is plentifully supplied with coals, from four to six shillings per ton, at the pits.

XI. What are the manufactures of the county, their amount, present state, with some account of the great iron works at Coalbrookdale, men employed, quantity of coals, iron, &c.

To this I cannot make any answer, from my own knowledge, and I must beg to be excused from saying any thing from enquiry, for obvious reasons.

XII. What are the principal mines and quarries of the county?

There are very considerable mines of lead, iron, and coal, and also lime, rock and building stone, some of which are worked to considerable profit, by the liberality of the owners granting long leases, which encourage opulent companies, to search for, and work the same. The chief owners and encouragers of those works, are the Marquis of Stafford, the Earls of Tankerville and Shrewsbury, Lords Craven, Berwick, and Clive, Sir William Jenningham, and Sir Walter Blunt, Baronets, Isaac Hawkins Browne, Brooke Forester, Robert Slaney, Robert Burton, and Saint John Charlton, Esquires, and the Coalbrookdale Company.

XIII. What is the general idea of the number of sheep in the county, their produce and profit, wool, price?

There is such variety of flocks and sorts, as make it impossible for me to give any satisfactory answer to this question, more than what I have said in page 10.

Indeed there has been of late, such a fluctuation in the

price of wool, that it would be difficult now to say, w
any sort is worth. But certainly, there is almost every
of sheep, bred and kept in this county, from the Welch
of six pounds, to the Leicestershire of thirty pounds,
quarter; but no large flocks.

XIV. To what extent are meadows watered, what
the advantages in rent and produce, and are they fed
sheep in the spring?

This query is answered in page 9 and 16.

XV. What is the average annual produce of a cow
butter, cheese, hogs, calf, &c.

This county is not famous for dairying; but the
dairy-wives make about eight pounds of a cow, but t
make much more, who are near enough to a town to
their milk, and those who keep new milched cow
Winter, and sell their skim'd milk by the quart, and
butter, from one shilling to fourteen-pence per pound
price of that article, is the best tacit proclamation o
luxury and prosperity of this kingdom; for I reme
within the compass of forty-five years, families in my n
bourhood, supplied with butter, the year through, at
pence per pound.

The greatest grievance which the landed property la
under, is the poor's rates, which are become excessive
this parish, which has no tradesman in it. The poor's r
have been raised from twenty-five to one hundred po
per year, within the compass of thirty years; for this,
may be an easy remedy, and a comfortable one to the p
which I shall, with pleasure, communicate at a more
venient opportunity.

J. BISHTON.

ERRATA.

In the Title, line 8, for *KILSAL* read *KILSALL.*

In page 7, line 19, for *Allerbury* read *Alberbury.*

In page 12, line 25, dele *from.*

In page 22, line 30, for *perjured* read *prejudiced.*

GENERAL VIEW

OF THE

AGRICULTURE

IN THE COUNTY OF

ESSEX.

GERMAN
OCEAN
ESSEX
Engraved for Mr. VANCOUVER's Agricultural Report
Scale of Statute Miles 69½ to a degree of Latitude.
1 2 3 4 5 6 7 8 9 10
1° E. Longitude 5 from London 10
15
40
35
30
5

GENERAL VIEW

OF THE

AGRICULTURE

IN THE COUNTY OF

ESSEX;

WITH OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

BY

CHARLES VANCOUVER.

DRAWN UP FOR THE CONSIDERATION OF THE BOARD OF AGRICULTURE
AND
INTERNAL IMPROVEMENT.

LONDON:

PRINTED BY W. SMITH.

M.DCC.XCV.

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no.3

TO THE READER.

IT is requested that this Paper, as well as the account of the agricultural state of Essex, by the Meſs. G of Hill-House, may be returned to the Board of Agricult its Office in London, with any additional remarks and o tions, which may occur on the perusal, written on the m as soon as may be convenient.

It is hardly necessary to add, that the Board c consider itself responsible for any fact or observation co in this Report, which, at present, is printed and circulat the purpose merely of procuring farther information, res the Husbandry of this district, and of enabling every contribute his mite, to the improvement of the country.

The Board has adopted the same plan, in regard the other Counties in the united Kingdom; and will be to give every assistance in its power, to any person, w be desirous of improving his breed of Cattle, Sheep, &c trying any useful experiment in husbandry.

LONDON, FEBRUARY, 1795.

INTRODUCTION.

IN collecting the neceſſary information for the following
rt, the ſurveyor has been regulated by the ſame line of con-
by which he was governed in the Agricultural Survey of the
y of CAMBRIDGE. By theſe means, the facts occurring in
pariſh are diſtinctly aſcertained, and by the Table and Journal
ch reſpective diſtrict, are brought compleatly into view; and
ade to exhibit, by the average of their aggregate amount, the
al produce, and other circumſtances reſpecting the preſent
of the agriculture, and the probable improvement of ſuch
t. In doing this, particularly in the firſt part, or journal of
port, every poſſible care has been taken to free it from thoſe
nd tedious repetitions ſo frequently occurring on a ſubject in-
le of change or variation; and where at the ſame time, it is
iſpenſible to preſerve and convey that clear and minute de-
ion of the ſoil and ſubſtrata, ſo material to the accurately un-
nding and rightly judging of the ſubject, as well in reſpect to
riculture of any particular pariſh, or diſtrict, as to that of the
nd huſbandry of the county at large.

The rural economics of this county with all their excellencies defects, are faithfully detailed in the journal; and the general o vations which follow thereupon, form the ſecond part of the re included in which, is a brief ſummary of the evils and defects u which the agricultural improvement of the county at preſent labo diſtinguiſhed under the ſeveral heads, of ſuch as are incurabl human means; of thoſe that may be removed by individuals the co-operation of neighbours; and of thoſe again which cann removed, or in any wiſe alleviated, without the power and auth of parliament.

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PART I.

Journal.

DISTRICT THE FIRST.

Temperate mixed ſoil, lying upon a gravel; a ſand, a blue and white chalky clay, a brown tender clay, or brick earth; and a tough ſtrong clay, or tile earth.

THE ſoil of the land lying weſt, north and eaſt of the the village of HELION BUMSTEAD, is a ſtrong brown earth, of a good ſtaple, on a blue and white chalky clay. To the ſouth, the ſoil is of a more light and gentle nature, of a fair ſtaple, upon a gravelly loam. Proceeding thence to HAVERILL and the hamlet of HAZARD END, the land for the depth of two furlongs, northeaſterly and ſouthweſterly of the brook, conſiſts of a well ſtapled gravelly loam, upon a chalky gravel. Aſcending the hill on both ſides the brook, and extending thence in the above directions, the deep tender ſoil is gradually loſt, in a thin wet ſtiff loam, upon a blue and white clay. The open common field land, compared with ſuch of the incloſures as are preciſely of the ſame nature, is from its peculiar circumſtances conſidered of very inferior value.

Two crops and a fallow, is the generally prevailing ſyſtem of huſbandry; though the moſt intelligent farmer, will ſometimes vary this mode, by ſowing clover with the barley, which ſtands as an etch crop in the place of oats; this is either fed with ſheep, or mown for hay; it lies for ſheep food during the next fallow ſeaſon, is broken up in the ſpring following, and planted with peas or beans; kept well hoed during the ſummer, and ſucceeded by wheat in the etch, or ſecond crop field; it is then fallowed for barley: this practice is found to anſwer extremely well, though in the open common fields, it muſt ever be confined to the flock maſters, otherwiſe their ſheep would feed upon the green wheat until Lady-day, and ſpoil the crop.

Weld is occaſionally cultivated for the manufacture of checque and fuſtian; its culture is ſimply that of tranſplanting from the ſeed beds at Midſummer; ſtands all winter, and is the ſummer following, when in full bloom, cut, dried, and laid up for uſe. The ſoil it favours moſt, is a ſtiff ſtrong loam, moderately moiſt, but not wet. The price from four-pence to eight-pence per ſtone. The manufacture abovementioned is carried on to a conſiderable extent, but the effect it has had on the agriculture of this pariſh, by inviting a great number of ſettlers, has been ſo far unfavourable, as to occaſion a conſiderable increaſe in the poor's rates within the laſt five years.

The land lying ſouth-weſt, weſt, and northerly of the village of STURMER, is a heavy ſtrong ſoil, of a good ſtaple, upon a blue, or on a brown clay. North-eaſterly from the village, and binding upon the brook, is a well mixed gravelly loam, of a good ſtaple, upon a gravel. Proceeding thence ſouth-eaſt, and northerly, on the ſlopes of the hills that riſe on each ſide from the brook, the ſoil increaſes in its ſtrength, and reſts upon a chalky clay. The land

land binding upon the gravelly ſoil, lying north-weſterly of the brook, correſponds with that deſcribed in the ſouth-eaſt, or oppoſite quarter.

The copſe wood or undergrowth here, is more valuable than is the like produce in the preceding pariſh, ariſing from the care and attention which is paid to the undergrowth when young, and to the cultivation of aſh for hop poles.

Turnips are ſown, and anſwer extremely well upon the light gravelly ſoils. Cabbages are here a new culture. For this crop the land is ploughed into four furrow ridges, in the furrows between which, are laid about 400 buſhels of long dung per acre. The dung is then ploughed under, making the furrows the ridges, on the tops of which, and at a yard apart from each other, about a quart of water is poured down; thus marking out where the plants are to be ſet; this operation is followed by a boy placing the plants ready for the dibber, who makes the holes, and preſſes the mould very cloſe to the roots of the plants; a ſecond watering immediately takes place, pouring the like quantity of water on each plant. The planting is generally performed by a gardener, as much depends on the plants being properly put into the ground; ploughing the intervals, hoeing, and moulding up the plants, follow in courſe. The drum-head cabbage is preferred; and the plants are always taken out of the ſeed bed, for immediate tranſplantation into the field.

The harveſtmen are not boarded by the farmers here, as in moſt other places, but in lieu thereof, they each receive four buſhels of malt and two lbs of hops, from which about forty gallons of ſtrong nouriſhing drink is uſually drawn: They alſo receive one ſhilling each on hiring, and five ſhillings per acre, for cutting and inning the whole crop; apportioning about thirteen acres to each man. The carts,

horſes, and drivers, are provided by the farmers; and whe the weather proves favourable, and the corn a fair ſtandir crop, a man will cut, and in, ſixteen acres of winter ar ſummer corn in the courſe of a month; as was the caſe the year 1793; previous to which time, and when the harvel men were boarded by the farmers in the uſual manne twelve acres per man were rarely known to be harveſted the ſame time, from the ſame land.

The ſoil in general in the pariſh of BIRDBROOK, extremely various; but the moſt ſtriking difference is fou along the courſe of the river Stour, where, from a quart to half a mile in width, a well ſtapled gravelly loam pr vails. South and riſing towards Whitley, the land becom heavier, and forms upon the higheſt levels, a cloſe co earth, upon a chalky clay, below which clay at irregul depths, are found veins of pure blue clay, and ſome grav Thence ſoutherly, and deſcending towards the princi branch of the river Colne, a more gentle ſoil is diſcoveral upon a brown clay.

Soot has been tried, and found effectual againſt moſs, Baythorn Park: it is applied in November, at the rate forty buſhels per acre, the firſt coſt of which is 6d. per buſh

The land in this pariſh is particularly favourable to t growth of oak timber; ſeveral fine ſtandards are detach through the paſtures, one of which meaſures at five f from the ground, eleven feet nine inches in circumferen Poplar, maple and plane tree are common to the ſo In Baythorne Hall garden, by the ſide of the river Sto a clump of alders juſtly excite notice and admiration. T largeſt of theſe trees (and they run tolerably even) at fi feet from the ground, is ſeven feet four inches in circu ference, and is in height from thirty to thirty-five feet

clo

clear timber. Some excellent hawthorne hedges have been lately raiſed, by planting one row only at ſix inches aſunder, rather than two rows nine inches or a foot apart. Theſe hedges have not been cut down, nor do they require it, to thicken their bottoms, as they are at this time a complete protection againſt hogs, and in other reſpects form a beautiful and effectual fence. Nothing can be more evident, than that a row of plants ſet thus . . . . . ſix inches diſtant from each other, muſt form a more complete and effectual fence at the bottom, than an equal number planted thus . . . . . at a double diſtance, and occupying the ſame length, but a greater depth of ground upon the hedge row.

As the country riſes towards RIDGEWELL, the higher parts of that pariſh conſiſt of a deep, tender ſoil, upon a chalky and a brown clay; but on deſcending towards Tilbury, and the head branches of the river Colne, the clay is loſt; and in the low grounds, a light gravelly loam is found, of a kindly nature, upon a gravel. Proceeding eaſtward a tender hazel coloured loam, of a good ſtaple, upon a white chalky clay, prevails generally through the pariſh of TILBURY, where, upon the ſides of the hills, a few wet ſandy and gravelly ſpots appear, but which in their preſent ſtate are inapplicable to the culture of turnips. The lands abutting upon the river Stour, from three quarters to a mile in width, belonging to the pariſhes of ASHEN, OVINGTON, and BELCHAMP ST. PAUL's, are a light ſandy loam, of a good ſtaple, in which there is a mixture of ſome gravel, upon a brown tender clay and gravel. Thence ſoutherly, and as the country riſes, a cloſe heavy ſoil is found, but of a good ſtaple upon a chalky clay.

Hollow draining at a pole apart, and at an expence of about three pound per acre, has been practiſed with great ſucceſs

ſucceſs in theſe pariſhes; and in thoſe of BELCHA
OTTEN and BELCHAMP WALTER, where in ge
the ſoil is an heavy moiſt grey loam, upon a blue and a
chalky clay. This latter has been applied with very
effect upon ſome of the lighter lands in theſe pariſhe
the expence, and in the proportion following per acre,

Stubbing or raiſing 40 loads (containing 40 buſhels				
at 2d. per load		0	6	8
Filling, at 1d. per load		0	3	4
Spreading, at 6d. for every ſcore loads		0	1	0
				0 1
Allowance for ſmall beer at 2d. in the ſhilling on the above				0
To four horſes, two tumbrells, and one driver, at fifteen ſhillings, allowed to carry through theſe pariſhes twenty-four loads per day, will equal for carting per acre				1
				1 1
To this add the uſual expence of hollow draining per acre				3
Making in the whole				£.4 1

The land in the pariſhes of PENTLOW, FOXEAR
LYSTON and BORLEY, which abuts upon the mea
that lie along the river Stour, is of a deep rich tractabl
ture, upon a tender clay and gravel; this character cont
for about a mile ſouthward of the river. Aſcending the h
country, and proceeding towards the Belchamps, the
becomes of a heavier nature, more moderately ſta
and lying upon a chalky clay. As the country falls
wards the ſouth (forming the valley through which the
runs from Clare to Sudbury) the ſoil improves in its ſt
becomes more free and gentle, and leſs difficult to ma
either wet or dry. The little pariſh of Lyſton very

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claims the preeminence, being by far the beſt tract of land in this part of the county.

The heavier parts of the pariſh of BULLMER conſiſt of a well mixed loamy ſoil, upon a brown and a white chalky clay; and a ſmaller portion of a lighter nature, upon a gravel. South, and extending towards Wickham St. Paul's, a wet cold thin ſoil prevails, lying upon a yellow, or woodland clay: this has been much improved by hollow draining, at a rod apart, and at the expence of 50s. per acre 2 10 0
Firſt coſt of eight waggon loads of chalk, containing 90 buſhels each, at 9s. per load is – 3 12 0
To this add filling, carriage, and ſpreading, and allowance for beer, 8s. per load – – – 3 4 0
per acre £.9 6 0
an expence which would be continued upon a much larger ſcale, were it not for the uncertain tenure of the tythes.

Upon the heavy lands in this neighbourhood, clover is ſometimes ſown with barley, but the frequent failure of the plant in the ſpring following, prevents the culture of that valuable graſs from being more general. The wheat from the clover leys is eſteemed much ſuperior to that ſown upon the fallows; where, upon the deep rich lands, along the courſe of the river Stour, it is very ſubject to the mildew and to be root fallen: the clovers however, are not ſo liable to miſ-plant, or to periſh there, as on the heavier lands, which are generally ploughed, in four furrow ridges.

Thoſe lands which border upon the meadows in the pariſh of MIDDLETON, form a well mixed ſoil, of a good ſtaple, upon a ſandy loam and a chalk; but, as the country riſes from the river, and extends towards Great Henny,

Henny, and Bullmer, the pure chalk is loſt, and a heavy, cold, ſoil prevails upon a chalky clay.

The valuable meadows along the river Stour, are much injured by the pending up of the water by the mill dams.

Proceeding ſouthward from Middleton, the country is broken into hills; but through the pariſhes of GREAT HENNY, TWINSTEAD and LAMMARSH, it is enriched with ſome fertile vales, and a large portion of excellent turnip land; the underſtrata of which, are a red and white ſand, and gravel, interſperſed with ſeveral ſmall veins of brown clay. Croſſing the valley, and aſcending from Lammarſh, to ALPHANSTONE, the land changes to a heavy cold thin ſoil, upon a red clay, or tile earth; a brown clay, or brick earth; a blue and white chalky clay; and in ſome places, a gravel. The ſtiff heavy cling ſoil, generally prevails through this pariſh, and often requires ſeven or eight ploughings, before it is brought into a proper ſtate to receive the ſeed of wheat, barley, or even of black oats.

This variety of underſtrata, in a great meaſure forbids a regular and even courſe of hollow draining, and has occaſioned the uſe of the land fall plough, which operates in bringing the field to a more uniform level, by filling up the ſmall hollows with the earth removed from the higher ground: by this means the open drains are cut upon a more evenly inclined plane, and the ſurface water is carried away with a greater, and more regular certainty: the earth however, from the want of hollow drains, ſtill retains a conſiderable quantity of water, which frequently periſhes the ſeed; and by the chill it produces (even in the moſt favourable ſeaſons) greatly retards the powers of vegetation.

An hazel coloured ſtrong ſoil upon a red loam, under which, at the depth of about eighteen inches, is found a blue and white chalky clay, intermixed with a few veins of gravel; is the prevailing character of the ſoil and ſubſtrata in the pariſhes of WICKHAM ST. PAUL's, GESTINTHORPE, and LITTLE YELDHAM. Adjoining the village of GREAT YELDHAM, the ſoil, a tender loamy gravel, of a good ſtaple, upon a gravelly loam, which gradually diſappears towards towards Little Yeldham on the eaſt, and Toppersfield on the weſt, where the land becomes of a colder nature, and is much to be improved by hollow draining.

Eaſt, and ſouthof the town of CASTLE HEDINGHAM, the ſoil of which forms a light coloured loam of a fair ſtaple, a brown clay, has been much improved by hollow draining, and by the application of white chalky clay, at the expence and in the proportion following per acre:

	£.	s.	d.
Four ſcore loads of clay, filling and ſpreading, at 5s. per ſcore	1	0	0
Allowance for beer upon ditto	0	3	4
Five horſes, four days work, at 2s. 6d. per horſe per day	2	10	0
Wear and tear of two tumbrells, four days, at 6d. each per day	0	4	0
Driver, four days work, including beer, at 1s. 6d. per day	0	6	0
	£.4	3	4

To the northward of the town, the land becomes ſufficiently light and dry to admit of the turnip huſbandry. On the weſt, the pariſh is bounded by the river Colne; along whoſe courſe is a conſiderable tract of meadow and rich hopland; the culture and value of the produce per acre, of the latter, taken on an average of ten years, is as follows:

The Hop Ground per Acre.	*Dr.*	*Per contra*	*Cr.*
To intereſt accruing annually upon the firſt coſt of the ſtock of poles, viz. 2,500 at 40s. per hundred, being the value of the poles at the third years growth of the plant	2 10 0	By 7 cwt. of hops at 6l. 3s. per cwt. being the average produce and value per acre of the Caſtle Hedingham hops for the laſt ten years —	43 1 0
To the annual ſupply of 400 new poles at 40s. per hundred	8 0 0	By 350 refuſe poles at 6s. per hundred -	1 1 0
Labour by contract, including digging, dreſſing, poleing, tyeing, hoeing, moulding, raking, laddering, planting dead hills, and barrowing dung	3 10 0	By old benes —	0 2 6
Manure — —	3 0 0	By profit in ſelling bags as hops —	2 18 6
Picking 7 cwt. the average produce per acre of Caſtle Hedingham Marſh, for 10 years	4 4 0	Total annual value of the produce per acre	£47 3 0
Drying & bagging the ſaid 7 cwt.	2 2 0		
Duty — —	3 10 0		
Tythe at 5s. per cwt. —	1 15 0		
Rent — —	3 3 0		
Poor's rates 10s. other pariſh rates 3s. 6d. —	0 13 6		
Three bags, weight 18 lb. each at 2d. per lb. including the making —	0 10 0		
Intereſt upon the firſt coſt and annual ſupply of baſkets, ſtools, pitches, barrows, ladders, forks, and other ſmall implements	0 5 0		
Twitching and ditching	0 5 0		
Total annual expence per acre	35 7 6		
Total annual net profit per acre	13 15 6		
	£47 3 0		£47 3 0

About forty acres of aſh, and Spaniſh cheſnut, have been very judiciouſly planted in this pariſh, for hop poles; the ſoil for the cheſnut, is as well choſen as the country would admit of, being that of a ſandy loam. The aſh upon the rich moory land, promiſes extremely well; and the whole ſtrongly indicates the great care and ſkill of the owner.

The roads in this neighbourhood have been greatly improved by cutting down their ſide greens, lowering the hedges, and removing the pollards and timber trees from the road hedge rows.

The blain, or a ſwelling of the glands in the throat, ſlipping calf, and the dug garget, are very troubleſome diſeaſes among the cow cattle in this and the adjoining pariſh of SIBLE HEDINGHAM, where the ſoil to the north, eaſt, and ſouth of the village, extending to Maple-ſtead, and meeting the lands of Caſtle Hedingham, forms a ſandy loam, upon a brown tender clay or brick earth. A ſimilarity in the ſoil, though ſomewhat more wet, prevails on the eaſt ſide of GREAT and LITTLE MAPLESTEAD, where the land is much broken, and the ſoil in general on the ſouth and weſt of thoſe villages, is of light and gentle nature upon a ſand and gravel. The veins of clay and brick earth which are found diſperſed through this quarter, are always attended with good effect, when applied in certain proportions to the lighter ſoils.

The valleys are chiefly occupied in the culture of hops, which is well underſtood and practiſed to advantage, although the grounds are not ſo productive as they are generally found to be, in the marſh of Caſtle Hedingham.

There is no material alteration in the face of the country, to the ſouth of FINCHING FIELD, and the adjoining pariſhes of Weathersfield, Shalford, and Great Bardfield;

though the ſtructure of the hills is ſomewhat different, con-ſiſting of a ſand, a gravel, and a blue and white chalky clay

The Norfolk and Cambridgeſhire ſheep, with a croſs o the Weſt Country and Hertford are generally preferred; an as a great diverſity of opinion prevails, reſpecting the ſupe riority of the Norfolk and Southdown, it has led to th following experiment by a very accurate and well informe gentleman at Finchingfield. At Horringer fair, in Suffolk in September 1791, a lot of ewe lambs was bought in a ſix pound ten ſhillings per ſcore. At Lewes fair, Suſſex, i the October following, a lot of Southdown ewe lamb was bought in at thirteen pound per ſcore. Theſe ſhee were depaſtured together, and in every reſpect received th ſame treatment until the 25th of September, 1793; a ſingl ſheep, which was adjudged to be the level of each lot, wa then taken out, and after both had faſted twenty-ſix hour were weighed alive, the Southdown weighing ninety-ſi pounds, and the Norfold ninety-five pounds; they wer then ſlain and the following reſulted from the experiment.

SOUTHDOWN.		NORFOLK.
lbs.		lbs.
52¼	carcaſe	53½
8¼	ſkin	7 and horns
1¼	legs cut off at the uſual knee joints	1½
4¼	call	3
4	blood	5
7½	head and pluck	7½
2¾	gut fat	2¾
12¼	entrails and their contents	14
2	loſt by killing ſuppoſed to be urine	1¼
lbs. 96		lbs. 95

In favour of the Southdown were					
2¾ lbs. of fat, 4½d. per lb.	0	0	10		
1¾ lbs. of ſkin and wool	0	0	5		
				0	1 3
In favour of the Norfolk were					
1lb. of mutton – – –	0	0	5		
and firſt coſt	0	6	6		
				0	6 11
Total difference in favour of the Norfolk ſheep				0	5 8

It is to be obſerved that neither of theſe ewes had had any young, but at the time of making the experiment, the Norfolk was more than half gone with lamb, and the Southdown had but juſt taken the ram.

The author of this experiment has conſtructed and uſes a draining wheel of caſt iron, that weighs about 4cwt. it is four feet in diameter; the cutting edge, or extreme circumference of the wheel is half an inch thick, which increaſing in thickneſs towards the nave or centre, will, at fifteen inches deep, ſcore out or cut a drain half an inch wide at the bottom, and four inches wide at the top. This wheel is ſo placed in a frame, that it may be loaded at pleaſure, and be made to operate to a greater or leſs depth, according to the reſiſtance made by the ground; which thus ſcored out in the winter, the wheel-tracts are either then filled with ſtraw ropes, and lightly covered over; or left to crack wider and deeper, during the enſuing ſummer. The fiſſures are then filled with twiſted ſtraw or buſhes, and covered lightly with ſome of the moſt porous earth that may be moſt conveniently at hand; and thus upon the graſs or ley land, are hollow drains formed at little or no expence, and which upon trial have been found to anſwer extremely well.

A conſiderable improvement has been made by the ſame gentleman by forming walking paths through the wet wooodlands: ſoot drains, or thoſe one ſpit wide and deep are there cut parallel to each other, and at the diſtance of from eighteen inches to two foot apart; between theſe drains the ſods that are raiſed are laid; thus raiſing a path-way above the general level of the wood, and at the ſame time forming drains which effectually relieve the wood of its ſuperabundant water: hence a more durable undergrowth is encouraged, and as oak timber is always found to flouriſh better in woods moderately moiſt, than thoſe that are wet, there is reaſon to believe that a due attention to this point, in the wet heavy woodland counties, would prove highly beneficial, and much promote the growth and durability of oak and other valuable timber.

Potatoes are very generally cultivated in the lighter parts of this neighbourhood; their moſt approved management is, to winter fallow and prepare the land as for barley; ploughed into four furrow ridges, and planted with two rows of ſets at eight inches ſquare upon each ridge. In the early part of the ſummer, the furrows are ploughed, and the plants are moulded up as much as poſſible. The crop is gathered by firſt ſplitting down the ridges with a double breaſted plough; this with ſubſequent harrowing and houſing will coſt about thirty ſhillings; and averaging the annual produce at 300 buſhels per acre, may be readily ſold at one ſhilling per buſhel in the field. This crop proves an excellent preparation for wheat; but as early ſowing is precluded, it will be found neceſſary to keep the land as cloſe and as much compreſſed as poſſible during the enſuing ſpring, to prevent the wheat from root falling.

The preparation for carrots is very ſimilar to the above for potatoes, and is generally reckoned to amount to about fifteen

fifteen ſhillings per acre. The ſeed is ſown broadcaſt, uſing lbs. per acre; ſucceſſive hoeings will coſt about four pounds per acre: and gathering, lopping, tailing, and ſtowing away, will be about four pounds per acre more. The average produce per acre, is ſtated at 650 buſhels, which readily commands ſix-pence per buſhel in the field. The beſt and moſt healthy roots are ſelected for ſeed; which are always ſet out upon the heavieſt and ſtrongeſt land; and afford a conſiderable ſupply of ſeed for the London market. This culture for ſeed, and for horſe food, prevails very generally through this neighbourhood, but more particularly at WEATHERSFIELD; where the ſoil in many places, (in addition to the former deſcription) is a white wet loam (or what is called moor) upon a gravelly loam; red, and white ſand; and a heavier ſoil, upon a white chalky clay.

The moory land is frequently mended with drift ſand, in the proportion of thirty loads per acre; and the ſandy lands have been much improved by the application of chalky clay, at an expence of 2l. 9d. per acre, viz.

Stubbing, filling, and ſpreading forty-five loads, at 8s. per ſcore	0	18	0
One and a half days work for five horſes, at 2s. per day each	0	15	0
Driver, one and a half day, at 1s. 6d. per day	0	2	3
Allowance for beer to driver, and for ſtubbing, filling, and ſpreading	0	2	6
Wear and tear of two tumbrells, one and a half day, at one ſhilling each, per day	0	3	0
	£.2	0	9

which after a lapſe of three or four years is frequently renewed, by applying about one half of the ſame quantity per acre.

An experiment worthy of ſome obſervation, was began i this pariſh about four years ſince. A piece of wet heav land was fallowed in the uſual way, laid into four furrov ridges, two furrows upon which were ſown, requiring abou one buſhel of ſeed wheat per acre. The crop was kep perfectly clean with the hoe, and weed hook, at an ex pence of about ſix ſhillings; and produced ſixteen buſhel per acre. The field was then hollow drained and under went a thorough winter and ſummer fallow; after which the two furrows that had not grown the former crop, wer in like manner ſown with wheat, hoed and kept clean, at th uſual expence; and yielded a produce of forty buſhels pe acre: at this time the whole of the field had been unde crop in three years; the ſucceeding year, the entire fiel was ſown broadcaſt with wheat, and which at preſen (July, 1794) indicates a produce equal to that laſt men tioned. The wheat was from the ſtock of Taunton Dal in Somerſetſhire.

The ſoil through SHALFORD and GREAT BARD FIELD, conſiſts of a loamy ſand and gravel, upon a whit and yellow ſand, and a wet heavy loam, upon a brow clay, or brick earth; below which, at eighteen or twent inches, is found a blue and a white chalky clay, which i applied with very good effect, in ſtrengthening the ligh ſoils, in a proportion of 160 buſhels per rod, or 640 buſhels to the acre. The white and yellow ſand, is ſuc ceſsfully applied in the ſame quantities to the wet heav ſoils.

The moſt approved huſbandry in the lighter parts of th pariſh of Great Bardfield, is to ſow the wheat ſtubble immediately after harveſt with tares, or rye. Theſe are mowr or fed off in the ſpring, and the land dunged and prepare for turnips. Twice hoed, fed off, and ſucceeded wit

ſprin

ſpring corn with clover. The young clover dunged, mown or fed off as beſt ſuits, and ſown the ſpring following with white peas, which are always off in very good time to admit of a proper preparation for wheat; the ſtubbles of which are haulmed, and ſown with tares, or rye in courſe. Upon the heavy lands the routine of crop and fallow is occaſionally varied, with fallow, barley, clover, wheat; and dung if poſſible upon the young clovers.

A few years ago, as a gentleman in this pariſh was walking through his wheat fields, when the corn was in full bloſſom, he was ſtruck with the variety of hues, or colours, which the bloſſoms aſſumed: at firſt he conceived it might be owing to the different ſtages of forwardneſs in the bloſſom; but on particular examination, and more mature reflection, concluded, that they were certain ſigns of a ſpecific difference in the quality of the wheat; impreſſed with this idea, he ſelected the ears of ſeveral different hues, and particularly marked eleven diſtinct numbers; noting very minutely, their characteriſtic qualities and appearances in the field: theſe he gathered and kept ſeparate when ripe, and planted them apart from each other in his garden: the ſame characterestic difference was obſerved to continue upon the ſeveral numbers when growing in the garden, as was obſerved in the field the preceding ſummer, and are as follow:

Firſt Year in the Garden.

No.

1 A ſtiff ſtraw, thick ear, the rows or cheſts in which, ſet cloſer than in any other.
2 Dark ſtraw, full blade, and large open ear.
3 A large long ear, ripened late, and well ſet.
4 Full foilage, and a long open ear.
5 Straight handſome ſtraw, large well ſet ears, flag or leaf ſmall.

6 Red ruſty leaf before ſpindling, red ſtraw with lit
leaf at harveſt, and ſmaller ears than any.
7 Very like No. 6 in ſtraw, the ears ſmall but well ſet.
8 Straw leafy at harveſt, of a good colour, well ea
and handſome.
9, 10 } Straw full of flag or leaf at harveſt; ears ſet wide.
11 Very like No. 5.

Second Year in the Garden.

No.
1 Short upright ſtiff ſtraw, thick well ſet ear, and later
four or five days than any of the others.
2 Very dark ſtraw, upon which there remained a full d
blade at harveſt, long open ears.
3 Strong leafy ſtraw, of a good colour, with a th
long ear, well ſet; rather later than Nos. 5, 8, 1
4 Thick leafy brown ſtraw with a ſmall ear.
5, 8, 11 } Short handſome bright leafy ſtraw ears long, thic
and well ſet.
6 Long ſtraw with a good deal of flag, ear ill ſet, and op
7 Straw handſome, but ſmall ears, and ſubject to r
falling.
9, 10 } Long weak ſtraw, very leafy, and ſubject to r
falling.

N. B. The lemon coloured bloſſom was obſerved to
tend Nos. 5, 8, and 11; but the colour of N
1 and 3, was not particularly remembered. Th
are the numbers which have been preſerved, N
5, 8 and 11, coming to the ſickle about a w
earlier than Nos. 1 and 3; the produce of whi
when compared with the rejected numbers, is an ex
of from ſix to eight buſhels per acre, and weigh
about three pounds more to the buſhel.

Proceed

Proceeding ſouth-eaſterly and keeping the more elevated country from Great Bardfield, through BARDFIELD, SALING, GREAT SALING, and to PANFIELD, the light gravelly ſoil continues intermixed with a brown tender loam, of a good ſtaple upon a chalky clay. Thence towards BOCKING and BRAINTREE, the lands on both ſides the Blackwater, and alſo a branch of that river, are found very much to vary, forming in the vallies a moor, upon the ſides of the hill, a looſe ſpringy gravel; and upon the higher country a thin compact grey loam, upon a chalky clay. The valleys are generally under paſture and meadow, with ſome few plantations of hops.

To the weſtward of the village of GOSSFIELD, and extending towards Weathersfield, a well ſtapled gravelly loam: northward and eaſterly towards Hedingham and Halſtead, and alſo to the ſouthward towards Bocking, a tender clay or loam, of a good ſtaple, upon a brown clay or brick earth, below which in ſome places is found a blue and white chalky clay.

A ſtraw hat manufactory has lately been eſtabliſhed under the patronage of the Marchioneſs of Buckingham, which affords ample employment for all the poor women and children of the neighbourhood.

The Southdown breed of ſheep has been lately introduced, and promiſes to anſwer extremely well; a preference however, is ſtill given by very good judges, to a croſs breed, between the Southdown ram and Norfolk ewe; the produce from which fattens well, and is much approved of by the butcher.

The land in general adjoining the town of HALSTEAD is a deep ſandy loam, upon a brown tender clay: extending thence, in every direction, an heavier ſoil, upon a gravelly loam, and a white chalky clay prevails; ſome of the

hollows and ſides of the hills are occupied in the culture of hops, and the remainder in meadows and paſtures; theſe are of an excellent quality, though greatly diſproportioned to the arable land.

The manufacture of baize, ſays, and lately of blankets, in this town, has had a diſadvantageous effect upon the agriculture of the pariſh, by increaſing the burthen of poor's rates upon the farmer; and which is alledged to be in no wiſe compenſated by any convenience which the pariſhoners excluſively draw from the manufactory, by the aſſiſtance of labourers in hay-time and harveſt, as the ſurrounding pariſhes equally participate in the advantage of procuring hands in the buſy ſeaſons, and are not contributory to the rates.

The higher parts of the Pariſhes of PEBMARSH and COLNE ENGANE may be deſcribed, a brown tender loam upon a brick earth, the greater part of which has been much benefited by hollow draining. The ſides of the hills are much inconvenienced by ſprings; though the lighter lands that are properly drained, afford excellent turnips. A very different ſoil prevails through the pariſhes of WHITE and WAKES COLNE, being that of a ſtrong compact cloſe clay, extremely retentive of water, and lying upon a tough red clay or tile earth.

Much of this land has been hollow drained at a pole apart, coſting about a guinea per acre, but with ſo little effect, as in a great meaſure to diſcourage that important practice. The means at preſent purſued to relieve the land of its ſurface water, is to uſe the land-fall plough, and to water furrow; and though theſe operations are performed in the beſt poſſible manner, the land is ſtill left ſaturated with water, and is much later in the ſeed time and harveſt than the adjacent pariſhes.

The

The land at FORDHAM, lying ſouth-weſterly from the church, and abutting upon Coptford and Aldham, conſiſts of a light ſandy and gravelly ſoil, abounding with ſprings. Thence north-weſterly and towards Little Horſeley, a mixture of ſoil upon a chalky clay, which continues without any material alteration eaſterly, through WORMINGFORD and MOUNT BUERS, where, binding upon the river Stour, is a ſtrong well ſtapled tender loam, upon a gravel. The ſides of the hills, though abounding with ſprings, are very apt to burn in dry ſeaſons; and not unfrequently are found in the ſame field, a rank red ſand, white laſhy moor (*i. e.* watery marl) ſtrong heavy clay, upon a tile earth, and rich ſound loam, upon a tender clay.

The mill dams, and the navigation from Maningtree to Sudbury, by keeping the water in the river Stour too high for the level of the adjoining meadows, prove very injurious, as on the ſlighteſt freſhes thoſe lands are frequently inundated.

At EARLS COLNE the land in general is a well working ſoil, upon a brown tender loam, intermixed with ſome good turnip land. The ſame character of ſoil is continued through GREAT TEY and ALDHAM, but after croſſing the head branch of the Roman River, and aſcending towards MARKS and LITTLE TEY, the ſoil is found to vary from a ſtrong wet clay upon a tile earth, to a grey tender loam upon a chalky clay, intermixed with a few ſpots, upon which turnips are occaſionally cultivated, though not without much injury to the ſucceeding crop.

The land in the pariſh of COGGERSHALL, forms a ſandy and gravelly loam, of a fair ſtaple, upon a brick earth, a gravel, and a white chalky clay. This latter ſubſtance, after hollow draining the wet ſpringy lands, is applied with very good effect, in the proportion of fifty loads, and at

an expence of three pounds per acre. A ſimilar ſoil is found to prevail at PATSWICK, and STISTED.

Through BRADWELL and CRESSING, a wet brown earth, upon a ſtrong brown and a white chalky clay; through which is interſperſed ſome very fine gravel, that is continued in a larger proportion through the pariſhes of RIVENHALL, CHEPPING-HILL, and KELVEDON. In the laſt mentioned pariſh the ſoil is found chiefly to conſiſt of a light friable loam, upon a tender brown clay, containing in a north-weſt and ſouth-eaſterly direction, a vein of rich marley clay: This has been applied with an equally good effect, as well upon the wet heavy, as on the more dry and lighter lands, in the following proportion and expence per acre.

Stubbing, filling and ſpreading fifty loads of forty buſhels each, at 7s. per ſcore	0	17	6
Five horſes, two and a half days, at 2s. per day each	1	5	0
Wear and tear of two tumbrells, at 1s. per day each	0	5	0
Driver, two and a half days, at 1s. 6d. per day	0	4	0
Allowance for beer upon the mens labour, at 2d. in the ſhilling, 21s. 6d.	0	3	7
£.	2	15	1

An expence which would be incurred more frequently, but from the dip and direction of the vein, which will only admit the pariſh to be partially benefitted.

RAYNE, BLACK and WHITE NOTLEY, and FALKBOURN: through theſe pariſhes the land is very much intermixed and broken, the higher parts conſiſting of clay, and the hollows and ſides of the hills of gravel and moor. The roads paſſing over the hills are materially injured

jured by the ſprings which riſe on their ſides. Clover has been ſo generally ſown in this neighbourhood, that the land has in a great degree become tired of it; and tares now ſown as its ſubſtitute, ſeem to encourage a well grounded expectation that the ſoil in a few years will again admit the culture of that valuable graſs. The principal obſervation reſpecting the clover ſick lands is, that although at the time of harveſt, and during winter there appears to be a very ſufficient plant, yet in the ſpring it is always found to fail, particularly on the tops of the ridges. Great benefits have reſulted in this neighbourhood from claying the light lands, and correcting the natural defects of the ſeveral ſoils, by mixing the oppoſites of each other together. From Falkbourn acroſs to FAIRHEAD, a wet heavy cold ſoil, upon a chalky clay, and very ſubject to brambles, and to coltsfoot. Thence to TERLING the ſoil becomes lighter, much intermixed, and very liable to burn in thoſe parts which lie near the gravel. Towards HATFIELD-PEVERIL the ſoil is more uniform, being a ſandy loam, upon a ſtrong bottom; under which, in many places, are found a deep ſtrata of a white and a yellow ſand. A ſandy loam, chiefly upon a gravel, forms the ſoil through Hatfield-Peveril to ULTING, upon which, turnips are cultivated to great advantage.

Towards WITHAM the land is heavier, forming a tender mould, of a good ſtaple upon a clay. In the pariſhes of BOREHAM and SPRINGFIELD the land is of a light and gentle nature, upon a gravel and tender clay. In thoſe of LITTLE and GREAT WALTHAM the ſoil is more varied, conſiſting of a gravelly and a brown tender loam, upon a gravel and a brick earth, and a thin wet grey loam upon a chalky clay.

The

The beneficial effects of this laſt ſubſtance, as a manu when applied on the light lands, at the rate of ſixty loa (forty buſhels each) and at an expence of four pounds p acre, is ſuppoſed, in this neighbourhood, to laſt twen years.

A ſimilar variety with the laſt deſcribed ſoil, ſeems prevail through GREAT and LITTLE LEIGH, wher although the commons are very wet, they are not liable communicate any injurious effects to the ſheep and cov that depaſture upon them. A light loamy gravel, of a f ſtaple, prevails through FELSTEAD, which, with a mi ture of brown tender loam, upon a chalky clay, continu through STEBBING.

The ſoil in the pariſh of LINDSELL conſiſts of a brov loamy clay, upon a blue and white chalky clay, a de binding gravelly loam upon a clayey gravel; and a we ſtapled ſandy loam upon a gravel, and a brown tender cla This laſt deſcription of ſoil prevails northerly to LITTL BARDFIELD, where the pleaſure that is received paſſing through a beautifully diverſified, well watered, a fruitful country, is greatly alloyed, by obſerving ſome the paſture land putting on a very rough and neglect appearance.

The heavy lands under cultivation in the pariſh THAXTED, have obtained a fair ſtaple, but thoſe whi have long been in a ſtate of reſt, are thought to have be much injured by compreſſion. This obſervation appli equally to thoſe lands which have a white chalky cl bottom, as to thoſe which lie upon a tough red clay tile earth.

Great improvements might here be made by laying t gether the intermixed property in the open field, whi wou

would remove the preſent inconvenience attending its management. By occaſionally leading a part of the water of the river Chelmer over the meadows which lie along its courſe, a conſiderable improvement may be made thereon.

The varieties in this pariſh continue very generally to GREAT EASTON, where the leading character of the ſoil, is a thin tough cling clay, under which, at various depths, are found ſtrata of red and brown ſand. Intermixed with the clay ſoil, are found ſmall portions of ſandy loam, which attend it ſouth-weſterly through GREAT and LITTLE DUMMOW, where, in the higher parts of the country, a thin grey ſoil upon a chalky clay, is gradually loſt in a deep friable mould, on the ſides of the hills which hang towards the meadows that abut upon the river Chelmer. Proceeding thence ſoutherly, croſſing the valley, and aſcending towards BARNSTON, a well mixed deep mould upon a brown and a chalky clay, and a thin light gravelly ſoil upon a gravel.

There are various modes of cropping purſued in this diſtrict; the firſt of which upon the heavy land, is to fallow the wheat ſtubbles for barley, ſow fourteen pecks to the acre; then fallow the barley ſtubbles for wheat, ſow ten or eleven pecks to the acre, and always dung upon the fallows for barley. Upon the more temperate lands, the uſual routine of crops are, firſt, fallow for oats or barley; ſow of the former, from ſixteen to eighteen pecks; of the latter, from twelve to fourteen pecks, and with either fourteen pounds of red clover to the acre. This is mown or fed off as beſt ſuits the conveniency of the farmer, and ſucceeded with wheat, after once ploughing the clover ley, ſowing from nine to eleven pecks per acre; part of the wheat ſtubbles are occaſionally ſown with tares; the land is then fallowed in courſe for ſpring corn. In this ſeries it is always judged

beſt to dung the young clovers rather than the fallows for ſpring corn, or the clover leys for wheat. When the lands of this temperament are in very good condition, the wheat ſtubbles are dunged, and ſown with beans upon three-foot ridges, two furrows upon a ridge; ſpringed or put in with a hand drill; uſing for ſeed of the ſmall Eſſex bean, about ten pecks; and when every furrow is ſown, about fourteen pecks to the acre. The beans are hoed and kept clean, at an expence of from eight to ten ſhillings per acre, and ſucceeded with wheat, ſowing from ten to eleven pecks per acre. The wheat ſtubbles are haulmed, ſown with tares for ſpring food, and then fallowed in courſe for oats or barley.

Upon the lighter lands, (and where turnips can be cultivated to advantage) firſt fallow, and dung for turnips, ſow one quart of ſeed to the acre; hoe once or twice as the crop may require, coſting from five to eight ſhillings per acre. The turnips are partly drawn, and partly fed off, and ſucceeded generally after once ploughing, with oats or barley; uſing the ſame quantity of ſeed as is required by the fallows on the temperate land. With the ſpring corn is ſown the uſual quantity of clover, which lies one year, it is then, upon once ploughing, ſucceeded with wheat, ſown broadcaſt ten pecks to the acre, and harrowed in. The wheat ſtubbles are uſually ſown with tares or rye, for ſpring food; the land it then dunged and prepared for turnips, and the ſame courſe repeated with little variation, if we except only the occaſional culture of a ſmall portion of coleſeed, which generally ſtands for a crop.

The reſult of this management requiring the ſeed ſtated above, and aided by the application of manure, as ſet forth in the Journal, produces, according to the index table, the following average:

AVERAGE

AVERAGE QUANTITY OF SEED REQUIRED

	pecks		bushels	pecks	
Of Wheat per acre	10 . 2	producing	22	3	per acre
Of Rye					
Of Barley ditto	12 . 4	producing	34	2	ditto
Of Oats ditto	17 . 0	producing	33	0	ditto
Of Peas ditto	15 . 0	producing	20	0	ditto
Of Beans drilled ditto	12 . 0	producing	21	0	ditto

N. B. It muſt be obſerved that the average on wheat is ſtruck upon the ſmall red and white wheat. Where rivet or bearded wheat is cultivated, an addition to the average may be made of five or ſix buſhels per acre: at the ſame time it may be noticed, that the rivet wheat is in general ſix-pence per buſhel leſs in value than the ſmaller or Kentiſh wheat.

By reference to the table, a difference of five ſhillings and ten-pence per acre will appear in the annual rent or value of the open common field, and the incloſed arable land. Of twelve ſhillings and two-pence per acre, between the partially improved paſtures, and thoſe of the firſt quality. Of five ſhillings and nine-pence per acre, between the half-yearly meadow land, and that which is in ſeveralty. Of eight ſhillings per acre, between the annual value of the coarſe and neglected incloſures, and the average rent of the arable and paſture land, when the ſame are let together, and without diſtinction of price. That there are two hundred acres of waſte foreſt land, which by incloſure, may be improved to the proprietor in its annual value fifteen ſhillings per acre. That there are one hundred and forty acres of common, that by incloſure, may be improved eleven ſhillings and ſix-pence per acre per annum. That the preſent compoſition for the great and ſmall tythes, is three ſhillings and nine-pence farthing, and that the ſame has riſen within twenty years one ſhilling and two-pence three-

farthings per acre; and finally, that the poor's rates calculated on the preſent rack rents, are four ſhillings and four-pence halfpenny, and that they have increaſed one ſhilling and ſixpence farthing in the pound within the laſt ten years.

The average price of proviſions, value of labour, and ſervants wages through this diſtrict, may be ſtated thus:

Beef and mutton 4½d. per lb.—veal and freſh pork 5½d. per lb.—pickled pork 7¼d. per lb.—butter 10½d. per lb.—cheeſe 6d. per lb.—flour 23¼d. per peck—potatoes 13½d. per buſhel—Stated price of daily labour in the winter 7s. 6d. in the ſummer 9s. per week. Threſhing wheat 28½d. per quarter; barley 16¼d. per quarter; oats 14½d. per quarter; peas 27d. per quarter; beans 14d. per quarter. Head man's wages, with board and lodging 8l. 10s. per annum; boy's wages, with the ſame, 40s. per annum; women's wages, with board, waſhing, and lodging, 4l. per annum; girl's, with the ſame, 45s. per annum.

DISTRICT THE SECOND.

Light mixed ſoil, upon a gravel, a ſand, and a brown tender loam.

BEGINNING at WEST BERGHOLT, where the land, binding upon BURES and FORDHAM, is of a heavier nature than that to the eaſtward, and abutting upon the heath, which is found to lie upon a ſand and gravel, and forms excellent turnip land.

The meadows upon the river Colne are much injured by the keeping up of the water for the ſupply of the mills.

Proceeding northward towards GREAT HORSLEY, a great deal of excellent turnip land, which continues to the pariſh of BOXTED, where the land upon the river Stour forms a light tender hazel coloured earth, of a good ſtaple; but aſcending ſoutherly, a fleeter ſoil; and near the tops of the hills, a few ſpots of very heavy land: with theſe exceptions, the whole may be advantageouſly employed in the culture of turnips. A ſimilar deſcription of ſoil will apply to LANGHAM, ſaving that in the higher parts of that pariſh the ſtaple is not equally good. Croſſing the Black Brook and proceeding ſoutherly towards ARDLEIGH, a ſtronger and deeper ſtaple is found, of a cooler nature, and more certain corn land. Returning northerly through DEDHAM, the ſoil is of a ſimilar nature.

By the failure of the baize manufacture, which flouriſhed in this pariſh ſome years ago, the expenſive burthen of the poor has been conſiderably increaſed.

The

The ſoil of LAWFORD, BRADFIELD, WRABNESS, and MISTLEY, is well adapted to the culture of barley and turnips. Wheat is ſometimes ſown, but the ſoil is not generally ſuited to the culture of that grain. Thence to RAMSEY, DOVER COURT, and HARWICH, a deep well mixed friable earth, upon which turnips, clover, and moſt grains and graſſes may be cultivated to advantage.

In this neighbourhood the uſual mode of manuring per acre, is to mix one waggon load of London muck, with about five times the quantity of freſh ſoil collected from the road and hedge greens. The coſt of the London muck at the wharf, is fifteen ſhillings per waggon load; the carriage of this, and mixing it with the earth heap, will coſt 4s. 6d. per load of forty buſhels each, twelve of which applied to the acre, equals — — — 2 14 0

Carting from the heaps into the fields, 6d. per load	0	6	0
Filling and ſpreading at 1½d. per load —	0	1	6
Driver half a day, including allowance for beer 10½d. allowance for beer upon filling and ſpreading, at 2d. in the ſhilling, 3d. in all	0	1	1½
£.	3	2	7½

which expence in mending, is ſuppoſed to be annually incurred on about one-ſixth part of the land that comes in turn for manuring; together with occaſional light top dreſſings of ſoot, aſhes, &c. upon the wheat and young clover.

From Ardleigh to LITTLE BROMLEY, a deep well working ſoil, and very judiciouſly employed in the culture of turnips.

In this neighbourhood brank or buckwheat, has been ſown and ploughed under for manure, when in full bloſſom: this is generally a preparation for wheat, but has not anſwered ſufficiently to induce a continuation of the practice.

Through

light, mixed soil.

coloured loam, upon a gravel and brown tender clay, through which are interſperſed ſome very good paſtures, and a ſmall ſkirting of tolerable meadows upon the river Colne.

In the corporation of Colcheſter, which comprehends ſixteen pariſhes, and of which, Greenſtead, Bere Church, or Weſt Donyland, Lexden, and Mile End, are the four out pariſhes, and annexed thereto; about one-third of the arable land lies in half-yearly common fields, the incloſing of which, and throwing it into ſeveralty, is much deſired by the moſt intelligent perſons in that neighbourhood.

The huſbandry which prevails moſt generally through this diſtrict, is to fallow, dung and prepare for ſowing turnips broadcaſt, about Old Midſummer; uſing from one quart to three pints of ſeed to the acre. As the land may be more or leſs foul, or the crop may be found to require it, the turnips are hoed once or twice, coſting from 5s. to 8s. per acre. The turnips are generally fed off with ſheep, and the land ſown with barley upon once ploughing, uſing from twelve to fourteen pecks of ſeed, and the ſame number of pounds of red clover to the acre. The clover is mown or fed off, and ſucceeded by wheat upon the ley, about twelve pecks of ſeed to the acre; a portion of the wheat ſtubbles are generally ſown with tares or rye for ſpring food, and then prepared for turnips in courſe. The wheat ſtubbles are ſometimes ſown with peas or oats, and then ſucceeded by a preparation for turnips, and when the clover miſſes plant, brank or buckwheat, four buſhels to the acre is ſown, ſtands for a crop, and is ſucceeded by wheat in like manner as upon a clover ley.

Buckwheat has been ploughed in for manure when in full bloſſom, but is not found to anſwer.

The expence incurred in the firſt coſt and application of manure, noticed in the journal of this diſtrict, applies very generally

3s-3s.3d.

's land;
l to be

generally through the adjacent country, where the diſtance from the wharf, or landing-place, does not abſolutely forbid it; and which from the management ſtated above, produces on an average through this diſtrict

21 buſhels 3 pecks of Wheat
20 buſhels of Rye
30 buſhels 2 pecks of Barley
35 buſhels of Oats
20 buſhels 2 pecks of Peas
25 buſhels of Beans.

By reference to the table from which the above general average is taken, it will further appear, that the average rent of the incloſed arable land is 14s. 6d. of the open field arable 10s. 6d. conſequently a difference of 4s. per acre lies againſt that very land, which in this, and in the preceding diſtrict, is generally of a ſuperior quality to the arable that is incloſed. That the paſture land of the firſt quality is ſuperior in its annual value to that of the ſecond claſs 9s. per acre. That there are 530 acres of ſalt marſh capable of being highly improved, by embanking from the ſea. That the moſt valuable meadow ground in the diſtrict, is half-yearly or Lammas ground; and that its average annual rent is 34s. exceeding that which lies in ſeveralty 9s. per acre. That there are 2829 acres of common, which by incloſure, is capable of being augmented in its preſent annual value 10s. 5¼d. per acre. That the preſent compoſition paid for the great and ſmall tythes is 3s. 3¼d. and that the ſame has increaſed within twenty years 1s. 1¼d. per acre. That the poor's rates upon the preſent rack rents are 4s. 2¼d. and that the ſame have increaſed within the laſt ten years 1s. 1¼d. in the pound.

On ſumming up the minutes taken in this diſtrict upon the value of labour, ſervants wages, and price of proviſions, they are found to tally ſo nearly with that ſtatement in the preceding diſtrict, that they may very properly be referred thereto.

DISTRICT THE THIRD.

Temperate mixed ſoil, upon a gravelly loam, a ſandy, or a fine gravel; a brown clay, or brick earth; and a red clay or tile earth.

BEGINNING at LITTLE OAKLEY, through which pariſh, and that of GREAT OAKLEY, is a ſtrong, well mixed deep ſoil, interſperſed with ſome veins of gravel, upon which turnips are cultivated to advantage. The paſture grounds through this neighbourhood, afford very excellent herbage, which continues without any material alteration to WICKES and GREAT BROMLEY, where a ſtrong well mixed ſoil prevails, upon a red and white ſandy gravel, under which, in many places, lies a brown tender clay or ſandy loam. In this diſtance the land is found very flat, difficult to drain; and where from the looſeneſs of the underſtratum (unleſs the work is executed with great care) the hollow drains will require to be renewed every eight or ten years. Proceeding ſoutherly to LITTLE BENTLEY, the ſoil and underſtrata continue the ſame; but thence towards TENDRING and GREAT BENTLEY, the country is a good deal broken, the ſides of the hills abounding with ſprings, and with all that variety of ſoil and ſubſtrata (the chalky clay excepted) ſo frequently noticed in the courſe of this journal. Weſt from Great Bentley, and croſſing a branch of the river Colne to TORRINGTON, the ſoil is chiefly a deep brown loam, upon a gravel and a brown tender clay. Thence weſtward to BRITHLINGSEA, a well mixed ſoil, of a fair ſtaple upon a gravel. The ſides of the hills would be very much annoyed with the ſprings, were they not gene-

rally

rally carried off, (though at a conſiderable expence,) by hollow drains.

The greater part of the embanked marſhes ſeem to owe much of their preſent inferiority to neglect and miſmanagement.

The land in the pariſhes of ST. OSYTH, GREAT CLACKTON, and LITTLE HOLLAND, which is bounded on the ſouth, by a level of embanked marſhes, and the German Ocean, is well adapted to the culture of graſs and corn, and in particular parts, to that of turnips.

Thence north, and towards LITTLE CLACKTON and WHEELY, a ſtrong ſoil upon a brick earth, through which are found ſome veins of ſandy loam upon a gravel.

The deep ſtrong lands in the pariſh of GREAT HOLLAND, have been much improved by hollow drains filled with ſhingle, brought from the ſea beach, and ſifted gravel. Theſe drains are made thirty inches deep, from three to four inches wide at the bottom, and about nine inches wide at the top: labour 3d. per rod, and materials about 3d. more; averaging through the neighbourhood where the land is clean drained, and the drains made at a rod apart, about 4l. per acre.

Eaſterly through FRINTON, the ſoil is formed of a ſtrong deep hazel coloured mould, which at WALTON becomes ſomewhat lighter, and affords a few ſpots of very good turnip land. The ſides of the hills hanging down to the ſalt marſhes in this pariſh, might be much improved by a due attention to hollow draining. Thence weſterly through KIRBY, a ſtrong compact loam upon a brick earth, and a deep hazel coloured ſandy loam upon a gravel. This latter ſoil prevails very generally through THORPE, upon which,

turnips would be more frequently cultivated, but for the great difficulty in getting them from off the ground. Northerly from Thorpe, and aſcending the country at BEAUMONT, a well mixed ſtrong hazel coloured loam upon a brick earth, and a thin wet heavy ſoil upon a red tough clay.

The embanked marſhes in this quarter, are greatly inconvenienced through the want of good water in ſummer; and although in the higher parts of the country there are ſome ſprings, yet their water is ſo bad (though beautiful to the eye) that in a ſhort time after it has been drawn from the well, it becomes extremely offenſive, and is rendered totally unfit for domeſtic uſe. Tanks or reſervoirs of rain water, ſeem the only ſucceedaneum for relief; but this important convenience is rarely to be met with.

The following is the expence per acre at which manure is generally applied through this diſtrict, when the land to be improved, lies tolerably convenient to the wharfs, or landing places:

	£.	s.	d.
One waggon load, containing 90 buſhels of London muck, delivered at the wharf, for – –	0	15	0
One ditto of chalk ditto – – – –	0	10	0
Carriage of both ditto to the earth heap at 7s. per load	0	14	0
Digging or ſtubbing about 220 buſhels of road or hedge greens – – – – – –	0	3	0
Twice turning and mixing the ſame, two days work for one man, at 1s. 6d. per day – – –	0	3	0
Filling and ſpreading at 4s. per ſcore loads –	0	2	0
Carting upon the field at 6d. per load – –	0	5	0
Half a day's work for the driver 9d. and allowance of beer upon ſtubbing, mixing, filling, ſpreading and driving, in all 8s. 9d. at 2d. in the ſhilling –	0	1	5½
Total	£.2	13	5½

Which

Which expence is ſuppoſed to accrue annually, upon about one-fourth part of the ſhift of arable land, which comes regularly in courſe for manuring; and which the home-made manure, or that produced from the farm, is not ſufficient to afford to that proportion of the farms a proper dreſſing. This calculation is ſtated on a ſuppoſition that the wharf where the foreign manure is delivered, is within diſtance of making three turns in a day, with a waggon and five horſes; where the team makes but two turns in the day, and where indeed one load is a compleat day's work, the above expence muſt be proportionably augmented.

The huſbandry moſt generally practiced in this diſtrict is to make a thorough ſummer fallow for oats or barley, and to ſow about one half of the ſpring corn land with clover, dunged when young, and ſucceeded by wheat upon the clover ley. The oat and barley etches which are not filled with clover, being previouſly dunged in the winter, are ſown early in the ſpring with beans, drilled or broadcaſt, kept well hoed through the ſummer, and ſucceeded by wheat. The wheat ſtubbles are haulmed immediately after harveſt, and a part of them are ſown with tares, which are either fed completely off, or only partly fed, and then left to ſtand for a crop; the land is then fallowed for ſpring corn and the ſame courſe repeated. This management is found to be more efficacious in eradicating the black graſs, than any other at preſent known or practiſed; and aided by the foreign manure annually expended in the diſtrict, produces according to the prefixed table, the following average crops per acre, viz.

Wheat	24	buſhels		
Rye				
Barley	33	buſhels	2	pecks
Oats	38	buſhels	1½	peck
Peas	19	buſhels	1	peck
Beans	27	buſhels	1	peck

In addition to the above, the ſame table ſhews that the average rent of the arable land through the diſtrict, is 14s. 5¼d. the paſture land 14s. 9¼d. and the marſh land 11s. 1d. per acre. That there are 1700 acres of ſalt marſhes, which may be embanked from the ſea to advantage. That the undergrowth of the woods is cut once in twelve years, and ſold at the ſtub for 4l. per acre. That there are 170 acres of thicks or foreſts, which by incloſing, may be improved 8s. per acre; and that in like manner there are 265 acres of common that may be improved 10s. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 5¼d. and that the ſame has increaſed within twenty years 10d. per acre. That the poor's rates upon the preſent rack rents are 3s. 2¼d. and that the ſame have increaſed 10d. in the pound within ten years.

The value of labour and price of proviſions are to be referred to the firſt diſtrict.

DISTRICT

l.

ES	Arable per acre.		ythes t & small		Poor's Rates.	
HES.	Enclosed.	Open Field.	Composition per £. Rent	Increase in 10 years.	Poor's Rates in £.	Increase in 10 years.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
KLEY . . .						
KLEY . .						
. . . . .						
OMLEY . .	14 0	- -	- -	- -	4 6	0 9
NTLEY . .	14 0	- -	- -	0 9	4 0	
. . . . .						
ON	14 0	- -	- -	1 0	2 6	
EA	15 0	- -	- -	- -	3 9	1 6
. . . . .	15 0	- -	- -	- -	2 6	0 6
ACKTON	- -	- -	- -	1 2	2 6	
LLAND .	15 0	- -	- -	- -	1 6	
ACKTON	12 0	- -	- -	- -	3 6	1 0
. . . . .	14 0	- -	- -	1 0	2 4	
LLAND .	15 0	- -	- -	1 0	2 6	
. . . . .						
. . . . .	15 0	- -	- -	- -	3 6	1 0
. . . . .	15 0	- -	- -	0 6	3 6	
. . . . .	15 0	- -	- -	0 6	3 6	0 9
. . . . .	15 0	- -	- -	0 9	4 6	0 9

GENE*ween the ploughed, the woods, and the grass l*
annua rmation (as it was possible to obtain, and t
convey

. . . . .	145½	- -	- -	0 10	3 2¼	0 10¾
ly improved	- -	- -				
. . . . .	- -	- -	- -	0 10	- -	0 10¾

DISTRICT THE FOURTH.

MERSEA ISLAND—Temperate mixed ſoil.

THE Iſland on the ſouth, on the eaſt, and to the weſtward, exhibits a ſtrong bold ſhore; northerly the ſhore becomes flat and ſhelving, and is ſkirted by a large extent of ſalt marſh, about 1000 acres of which, would pay extremely well for embanking from the ſea. The Iſland is divided into the two pariſhes of Eaſt and Weſt Merſea, the higher parts of which, conſiſt of a dark coloured friable mould, upon a ſandy and a gravelly loam; and a deep hazel coloured ſtrong earth, upon a brown tender clay or brick earth. The firſt of theſe ſoils is advantageouſly employed in the culture of turnips, barley, and clover, the laſt in that of beans and wheat. This highly favoured ſpot is well ſupplied with excellent ſprings; and it might be rendered far more productive than it is at preſent, were the incloſures enlarged, and many of thoſe thick and uſeleſs hedge-rows deſtroyed, which at preſent encumber the middle of the Iſland, and render its air and climate leſs ſalubrious and wholeſome than it otherwiſe would be. The ſtrong heavy highland, and the old embanked marſhes, have been greatly benefited by the application of chalk, in the proportion of about eight waggon loads to the acre, firſt coſt of which 10s. 6d. per load, beſides carriage. The highland graſs and arable is rented on an average, at 17s. per acre; the marſhes at 10s. 6d. running the whole together, and taking the produce through

through the Iſland on an average of five years, it may be ſtated thus:

Wheat	28 buſhels per acre
Barley	40 ditto
Beans	32 ditto
Oats	40 ditto

The failure of the oyſter trade, which before the preſent war, was carried on to a very conſiderable extent, has ſubjected the principal occupiers of the Iſland to an increaſed burthen in the poor's rates of from 2s. to 4s. in the pound. The tythes, great and ſmall, including the embanked marſhes, are compounded at 3s. 6d. per acre.

DISTRICT

Preſent Rethes & ſmall										Poor's Rates.			
Arable per acre.		Paſture per acre.			Marſh per acre.		Compoſition per £. Rent	Increaſe in 20 years.		Poor's Rates in £.		Increaſe in 10 years.	
Enclоſed.	Open Field.	1ſt quality.	2d quality.	3d quality	Improved.								
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.		d.	s. d.		s. d.		s. d.	
17 0	- -	17 0	- -	- -	10 6	1		- -		4 0		2 0	

DISTRICT THE FIFTH.

Strong heavy mixed ſoil upon a brown clay, or brick earth, a gravelly loam, and a tough red clay or tile earth.

BEGINNING at ABBERTON, where the land lying ſouth of the church, and hanging towards LANGENHOE and PELDON, conſiſts of a ſtrong heavy ſoil upon a tile earth, which has been chalked with very good effect in the proportion, and at the expence following per acre:

Eight waggon loads of chalk, firſt coſt 10s. 6d. per load at the wharf, or landing-place	–	4	4	0
Carting and ſpreading at 7s. per load	–	2	15	0
	£.	6	19	0

The effect of which, as a manure is thought to operate for fifteen or twenty years, during which time, and for a conſiderable period after, the land will remain more tractable and eaſier managed. From Peldon to LITTLE and GREAT WIGBOROUGH, the ſoil is ſimilar to the laſt deſcribed, but much the ſtrongeſt round the church upon the hill at GREAT WIGBOROUGH. At VIRLEY and SALCOTE the land in general forms a ſtrong deep good ſtaple upon a brick earth, which gradually fleetens as the country riſes towards TOLESHUNT KNIGHTS, LAYER BRETON, and LAYER MARNEY, where the ſoil conſiſts of a thin cold clay, upon a tile earth, and a ſimilar ſoil, though ſomewhat better ſtapled upon a gravelly loam.

The courſe of huſbandry through this diſtrict, is to make a thorough ſummer and winter fallow for oats or barley, with a ſmall proportion of which is ſown clover, dunged when young, and after lying one year, the ley is ſown with wheat upon once ploughing. The wheat etches are often dunged in the winter, and drilled with beans in the ſpring following, two rows upon a four furrow ridge, kept well hoed during ſummer, the bean etche well cleaned in the autumn, and ſown again with wheat: a ſmall portion of theſe etches are occaſionally ſown with tares, which are fed off, or left to ſtand for a crop, and in either caſe the land is fallowed again in courſe for ſpring corn. The black graſs through this diſtrict is extremely troubleſome, and without winter fallowing, it is alledged to be utterly impoſſible to keep it within ſuch bounds as would admit any reaſonable chance for a crop of wheat.

The quantity of ſeed uſed in this diſtrict (through the heavier part of number ſeven, and the whole of number ten, is much the ſame, and) may be ſtated thus, viz. wheat from eleven to twelve pecks—barley from fifteen to ſixteen pecks—oats from ſeventeen to nineteen pecks—tick and horſe beans, when drilled, two furrows upon a three-foot ridge twelve pecks; the ſame drilled every furrow ſixteen pecks, and clover ſixteen pounds to the acre, producing upon an average through this diſtrict as per the index table.

25	buſhels	1 peck	of wheat per acre
32	buſhels	1 peck	of barley
38	buſhels	3 pecks	of oats
32	buſhels		of beans

The circumſtances of this diſtrict, which are further explained by the ſaid table, are, that the average rent of the arable land is 15s. per acre: that the ſuperior paſture is

21s.

l soil.

	Produce acre hels of			Tythes great & ſmall			Poor's Rates.	
	Oats.	Peas.	Beans.	Compoſition per acre.	Compoſition per £. Rent	Increaſe in 20 years.	Poor's Rates in £.	Increaſe in 10 years.
	buſh.	*buſh.*	*buſh.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
	40	- -	32	- -	3 6	- -	3 0	
H	40	- -	32	4 0	- -	- -	2 3	
H	36	- -	28	4 0	- -	1 0	1 0	
	36	- -	28	4 0	- -	1 0	3 0	
S								
	40	- -	- -	4 0	- -	2 0	4 6	1 0
	40	- -	- -	3 6	- -	1 9	4 0	
	40	- -	40	4 0	- -	1 0	2 0	0 6

erence of value between the ploughed, the u
such material information (as it was po

nd	38 3	- -	32	3 11	- -	1 4¼	2 10	0 9
	- -	- -	- -	- -	- -	1 4¼	- -	0 9

l soil.

'AMES of 'ISHES.	Produce acre hels of			Tythes great & ſmall			Poor's Rates.	
	Oats.	Peas.	Beans.	Compoſition per acre.	Compoſition per £. Rent	Increaſe in 20 years.	Poor's Rates in £.	Increaſe in 10 years.
	buſh.	*buſh.*	*buſh.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
'ON	40	- -	32	- -	3 6	- -	3 0	
N	40	- -	32	4 0	- -	- -	2 3	
E WIGBOROUGH	36	- -	28	4 0	- -	1 0	1 0	
WIGBOROUGH	36	- -	28	4 0	- -	1 0	3 0	
Y								
TE								
HUNT KNIGHTS								
MARNEY								
BRETON	40	- -	- -	4 0	- -	2 0	4 6	1 0
ENHOE	40	- -	- -	3 6	- -	1 9	4 0	
	40	- -	40	4 0	- -	1 0	2 0	0 6

erence of value between the ploughed,
such material information (as it was

rage											
rtially improved and d	38 3	- -	32	3 11	- -	1 4¾	2 10	0 9			
. . . . .	- -	- -	- -	- -	- -	1 4¾	- -	0 9			

grass land;
, and to be

21s. the paſture of the ſecond quality 14s. conſequently a difference of 7s. per acre in favour of that which is properly improved. That the old embanked marſhes are 10s. 6d. per acre, and that 1370 acres of ſalt marſh might be advantageouſly embanked from the ſea. That the average rent of the highland graſs and arable, when let together and without diſtinction of price, is 14s. per acre. That the undergrowth in the woodlands, cut once in ſeventeen years, ſells at the ſtub for 4l. 10s. per acre. That there are ſixty acres of common, which by incloſure, are capable of being augmented in their annual value 8s. 6d. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 11d. and that the ſame has increaſed 1s. 4¼d. per acre within twenty years; and finally, that the poor's rates upon the preſent rack rents are 2s. 10d. and that they have increaſed 9d. in the pound within ten years.

The price of proviſions, and the value of labour, in this diſtrict, and in Merſea Iſland, are as follow: beef and mutton 4½d. per lb.—veal and freſh pork 5d. per lb.—pickled pork 7d. per lb.—butter 10d. and cheeſe 6d. per lb.—flour 2s. per peck, and potatoes 1s. 3d. per buſhel—Stated daily labour winter and ſummer 1s. 6d. per day. Threſhing wheat 2s. 6d.—barley 1s. 4d.—oats 1s.—peas 2s. 4d. and beans 1s. 2d. per quarter, beſides allowing as much ſmall beer as the thraſher chooſes to drink.—Head man's wages 8l. with board and lodging; boy's wages, 45s. per annum, with the ſame; maid ſervants 4l. with board, waſhing, and lodging; girl's 40s. per annum with the ſame.

DISTRICT THE SIXTH.

Temperate mixed ſoil upon a gravel, a ſand, a brown tender clay, and ſome ſtrong clay, or tile earth.

BEGINNING ſouth, and proceeding weſterly of the village of FEERING, where the land upon the ſides of the hills which hang towards the Blackwater river, conſiſts chiefly of a light gravelly ſoil, abounding with ſprings, and uſually denominated hollow bottomed land, that frequently ſubjects the wheat to the mildew, and to be root fallen. The ſpringy places have been much relieved by hollow draining, as has alſo the wet heavy lands in the north quarter towards Coggershall, Earls Colne, and Little Tey: adjoining the village on the eaſt, a light grrvelly ſoil; but extending thence towards EAST THORP, and MESSING, a brown tender loam, of a good ſtaple, interſperſed with ſome very fair turnip land.

On the ſides of the hills through INWORTH, GREAT and LITTLE BRAXTED, and abutting upon the meadows which lie along the Blackwater river; the land is chiefly of a looſe hollow nature, but in which are found veins of ſtrong ſound land, upon a brown tender clay; thence weſterly and binding upon Tiptree Heath, a thin dry ſoil upon a harſh gravel. This general character prevails without any material alteration through the pariſhes of WICKHAM BISHOP, LANGFORD, and HEYBRIDGE, forming upon the higher parts of the country, very good turnip land, upon the ſides of the hills, a conſiderable mixture;

and along the courſe of the Blackwater river, a beautiful margin of excellent meadow land.

From Heybridge to LITTLE TOTHAM, a deep rich ſoil upon a ſandy and a gravelly loam, through which are interſperſed ſome luxuriantly rich paſture, and ſome tolerable turnip land. The ſoil of GREAT TOTHAM conſiſts of a deep hazel coloured earth upon a brown clay, and a light gravelly ſoil upon a ſand and gravel. The deep loamy ſoil has been much improved by clean chalking, at the following expence per acre:

	£.	s.	d.
Six waggon loads of chalk, ninety buſhels each, at 12s. per load at the wharf – –	3	12	0
Carriage, filling and ſpreading ditto at 8s. per load – – – – – –	2	8	0
	£. 6	0	0

Which dreſſing is ſuppoſed to laſt twenty years; nor is it allowed by the advocates for this practice, that with fair farming the land can ever be ſo completely impoveriſhed as it ſeemed to be before the chalk was applied. In many parts of this neighbourhood a ſecond chalking has been tried, but with ſo little effect, as entirely to diſcourage its repetition.

The land in the pariſhes of TOLESHUNT MAJOR and GOLDHANGER, forms a deep rich mould upon a gravel, in which are found ſome ſprings that occaſion a difficulty in getting the turnips from off the ground. The marſhes which were formerly under graſs, are now very generally under the plough. Chalk has anſwered a very valuable purpoſe upon thoſe lands, particularly when applied in ſufficient quantities (*i. e.* eight waggon loads per acre) and left to melt and moulder upon the ſurface for three or four years before it is ploughed in, it will then intermix and incorporate very minutely with the ſoil, and is eſteemed by

far the beſt mode of firſt bringing into action, and afterwards by good huſbandry, of preſerving the enriching qualities of theſe lands.

In the pariſhes of TOLESHUNT DARCEY and TOLESBURY, the ſoil conſiſts of a heavy compact earth upon a ſtrong retentive tough clay, where little benefit has as yet been derived from hollow draining; and a ſoil of a more light and gentle nature, upon a loamy gravel, where turnips are ſometimes cultivated, but always prove very detrimental to the ſucceeding crop.

A conſiderable improvement has been lately made in the rough marſhes here, by removing the ants hills; the operation is performed by chopping round the hills with a heavy adze or grubbing hoe, the cutting edge of which is circular, and ten and a half inches wide; the depth of the blade, including its neck to the eye (or where the handle is faſtened) is eight and a half inches; from half a dozen to half a ſcore ſtrokes will belt the largeſt hill, and looſen it from its ſeat, which is always left lower than the adjoining ſurface of the marſh, to receive and hold the rain water, by means of which, the ants are more completely deſtroyed. Boys follow the grubber, and carry the ants hills into the rills, and low places in the marſh, and thus a conſiderable increaſe of ſurface is obtained, that in the courſe of a year becomes profitable by getting coated with graſs, and at an expence which ſeldom exceeds 15s. per acre.

The culture of coriander has been much attended to in this neighbourhood, and is thus managed: old ley ground is ploughed in the beginning of March, and after the ſurface is completely pulverized, the ſeed is ſown fourteen pounds to the acre; thrice hoeing and ſetting out the plants four inches ſquare, will coſt one guinea per acre. Average produce 10 cwt. per acre, 12s. per cwt. This is conſidered to be a very good preparation after once ploughing for wheat,

and

land is generally ploughed in two-yard ridges, or
f eight-furrows wide, a row of beans is generally
ith the coriander on each ſide of the open furrows
he ſketches, and are uſually harveſted at the ſame

carraway is ſown with the coriander, from the
attention neceſſarily beſtowed in diſtinguiſhing the
e hoeing ſeldoms coſts leſs than one guinea and a
cre; but the carraway is not regularly ſet out for a
after the coriander is harveſted, at which time a
nſive hoeing becomes indiſpenſably neceſſary.

is ſomtimes cultivated in the ſame field, the ſeed
n with the coriander and carraway; but as neither
way or teazel come completely and regularly the
ar, both crops are uſually allowed to ſtand for the
mer: this is eſteemed good management for old coarſe
ounds, which, after three ploughings, is commonly
h wheat, and then clean chalked at the following
er acre:

ggon loads of chalk, ninety buſhels each,
6d. per load at the wharf, or landing-
— — — — — — 4 12 0
and ſpreading, three turns per day, at
load — — — — — 2 16 0
£. 7 8 0

ence occuring upon freſh lands, or where it has
chalked before, will, with good huſbandry, be quite
without any intermediate mending for twenty

nd belonging to the BOROUGH OF MALDEN,
m a ſtrong well ſtapled earth upon a brown tender
light gentle ſoil upon a gravel; upon the former
al of coleſeed is ſown for ſoil; mown and carried

off to the cattle by the end of February, and ſucceeded with oats or barley. Upon the lighter land the culture of tares, turnips, and other green crops is very generally attended to. From Malden weſterly towards WOODHAM WALTER, a thin ſtapled light ſoil upon a gravel, under which a variety of ſtrata of red and white ſand, gravel and brick earth; this land is particularly ſubject to burn in ſummer, and from its great dryneſs, the culture of turnips is rendered extremely uncertain. The coleſeed in this neighbourhood is generally fed off, not growing ſufficiently high to admit of mowing, as at Malden.

At WOODHAM MORTIMER the ſoil conſiſts of a ſtrong heavy clay upon a tile earth, a brown loam of a good ſtaple upon a tender clay, and a light hollow ſoil abounding with ſprings upon a gravel, and which are generally drawn off by hollow drains, at an expence of about 3l. per acre. Of this improvement, a gentleman in that neighbourhood has done ſome hundreds of acres, and very juſtly conceives it to be the firſt, and moſt eſſential point in the improvement of this kind of land. Chalking the wet heavy lands at an expence of 5l. per acre, is very general, and found to anſwer ſo well, that with fair cropping, the land will require little or no dung, or other manure, for a period of twenty years.

At HASELEY the ſoil is formed of a deep hazel coloured loam upon a brown clay, and a more open and tender ſoil, upon a loamy gravel. Thence weſterly, and aſcending the country towards DANBURY and LITTLE BADDOW, a thin dry ſoil upon a gravel, affording little means of improvement from natural manure; unleſs the veins of white pipey clay which are found interſperſed through theſe pariſhes, ſhould on trial be found to anſwer.

The woodlands in the higher parts of this country are found very much to favour the growth of an inferior dwarf oak

oak, and hornbeam, though in Danbury Park, which hangs to the ſouth, and is ſituate about midway of the hill, by far the largeſt and beſt growth of ſweet cheſnuts are to be ſeen of any in the county.

Deſcending towards SANDON, a blue and white ſubſoil appears to unite with, and continue through tender well ſtapled corn lands, that are bounded by the meadows which lie along the River Chelmer. Southerly from the church of Sandon, and abutting upon South Hanningfield, a ſtrong heavy loam upon a brick and a tile earth; but weſt, and adjoining Great Baddow, a more free and gentle ſoil, chiefly upon a gravel. The blue and white clay in the pariſh of Sandon, has been applied with the moſt ſenſible effect upon thoſe lands which have a brown tender bottom, rather than ſuch as are gravelly, or poſſeſs a tough tile earth; the proportions and expence per acre, are as follows:

Stubbing, filling, and ſpreading forty loads of forty buſhels each, at 7s. per ſcore, including an allowance for beer - - - -	0	14	0
Three days for a team of four horſes and a driver, including the wear and tear of two tumbrells, and allowance of beer to the driver, the whole at 15s. per day. - - - -	2	5	0
£.	2	19	0

Where no clay is to be had (which through this neighbourhood is extremely ſcarce) lime is mixed with earth and dung, and applied at an expence of 5l. per acre. The clay however is eſteemed by far the moſt preferable, being thought equal in its operation, and far more durable; not only increaſing the quantity, but greatly improving the quality of the wheat, and other grain with which the land may be afterwards cultivated.

By the moſt ſkilful and induſtrious farmers, hollow draining is very generally attended to upon the heavy lands, and at an expence of from three pounds to three guineas per acre.

The buſineſs of butter-making has been in a great meaſure relinquiſhed in this pariſh, from the want of good ſpring water, and a ſmoaky taſte, which is communicated to the butter, when the cows feed upon ſome particular paſtures, or when foddered with the hay which is mown from them. This has hitherto baffled every means of cure or prevention. When the cows are fed upon tares, other graſs, or hay, very good butter is readily obtained; and even when fed upon turnips, cabbages, or that they gather up the fallen leaf; by proper care and attention, the diſagreeable flavour in the butter is prevented.

Theſe obſtacles to the making of good butter have led to the more general practice of ſuckling, which buſineſs ſeems to be very well underſtood in this pariſh. For this purpoſe the breed of cows from South Wales are moſt generally preferred; though the calves which they produce are often found weak and unhealthy, and ſeldom fat ſo kindly, or pay ſo well, as thoſe bought in from dairies. To promote the torpor, and quick-feeding of the calf, a ball weighing about two ounces, compoſed of the powder of fennugreek, wheat-meal, and a ſmall quantity of powdered chalk, blended together with mild ale, is given morning and evening juſt before ſucking; this lulls and diſpoſes the calves to ſleep, thereby advancing their fattening, which is generally accompliſhed in about twelve weeks, paying 4s. 6d. per calf per week, during the whole time: This nutritive opiate is alſo ſuppoſed to have a very good effect in whitening the veal.

A croſs produced from the South-down ram, upon the Welch ewe, is held in high eſtimation. The grazing of a

ſheep

ſheep is generally allowed to the men ſervants in lieu of waſhing: This is found to anſwer a good purpoſe in calling their attention more frequently to the flock, by which means many of the accidents to which that animal is liable, are often obſerved in time to remedy, or entirely to prevent.

Aſcending by the courſe of the river Chelmer to GREAT BADDOW, the ſame character of ſoil is found as was deſcribed in the north quarter of Sandon. South, and extending towards eaſt and weſt Hanningfield, a deep loamy ſoil, which to the weſtward, and abutting upon WIDFORD, and a part of Chelmsford, becomes of a moiſt and heavier nature, and reſts upon a marly, or rather upon a chalky clay. North, and binding upon the meadows which lie along the Chelmer, the ſame tender well ſtapled ſoil deſcribed on the eaſt, and in the ſame direction through Sandon.

The chalky clay has been applied very ſucceſsfully upon the gravelly ſoils in this pariſh, thirty loads of forty buſhels each to the acre.

	£.	s.	d.
Stubbing, filling, and ſpreading the ſame, at 6s. per ſcore	0	9	0
Four horſes, two tumbrells, and a driver, five days, at 15s. per day	3	15	0
Allowance for beer upon ſtubbing, filling and ſpreading	0	1	6
Ditto for the driver	0	1	3
	£.4	6	9

The land in general adjoining the town of CHELMSFORD, is found to conſiſt of a deep rich tender loam, intermixed with ſome veins of gravel. The ſandy loam extends eaſterly to Springfield and Borcham; the gravelly, ſoutherly to Great Baddow; thence weſterly, an heavier ſoil upon a chalky clay: Towards Writtle the light gravelly ſoil again appears, which at Broomfield is again loſt in a

deep, rich, grey loam, upon a tender brown, and a white chalky clay.

The average annual produce, and value per acre for the laſt ſeven years of the hop culture in this neighbourhood ſtands thus:

6 cwt. 2 q. 18 lb. per acre, at ſix guineas per cwt.			
or 13½d. per lb. equals	40	19	0
Refuſe poles 300 at 7s. per hundred	1	1	0
Old bines	0	5	0
	42	5	0
Average annual expence per acre, every poſſible charge included	29	5	8
Total net profits per acre for ſeven years	£.12	19	4

The face of the country through WEST, EAST, and SOUTH HANNINGFIELD, is very much broken into hills, and conſequently compoſed of all that variety of ſoil ſo generally prevalent in ſuch aſpects. From South Hanningfield to RUNWELL and DOWNHAM, the land is equally broken, and to the varieties of ſoil obſervable through the Hanningfields, is to be added a larger portion of looſe hollow bottomed ground, which by a due attention to hollow draining, and the application of clay, may be very highly improved. This general character continues weſterly, and forms the ſoil of the land lying eaſt of the church, in the pariſh of STOCK. Thence ſoutherly, and abutting upon Burſted and Mountneyſing, a ſtrong ſoil upon a brown clay, under which, in ſeveral places, are found veins of a perfectly pure blue, and a yellow woodland clay. The ſame ſoil and ſubſtrata continues weſterly through BUTTSBURY, MOUNTNEYSING, and INGATESTONE; but thence northerly, and binding upon MARGRETTING, the country gets more hilly, the ſoil in general more varied, and of a heavier nature.

The

The ſoil of GREAT and LITTLE BURSTEAD (including the hamlet of BILLERICKY) conſiſts of a deep rich loam upon a gravelly loam, and a brick earth, a thin heavy ſoil upon a tough red clay, and a deep friable mould upon a gravel.

In this neighbourhood the cows are particularly liable to ſlip calf, which is generally aſcribed to an infectious effluvia proceeding from the firſt falſe birth, the ill effects of which is ſuppoſed to be in a great meaſure prevented from ſpreading, by immediately burying the abortion, burning ſtraw directly over the place, and ſmearing the hind parts of the cow with tar; but above all, keeping her ſeparate, and as far apart as poſſible from the other cows, ought never to be neglected; various reaſons are aſſigned as the cauſe of this accident, but none that appear concluſive, or ſatisfactorily explained.

The courſe of huſbandry practiced upon the lighteſt lands in this diſtrict, is to fallow and prepare for turnips, ſucceeded by oats or barley, with rye graſs half a buſhel, and trefoil 10 lbs. or one half peck to the acre; this lies one and ſometimes two years, and is then ſown broadcaſt upon the flag, with white peas, from fourteen to ſixteen pecks to the acre. The pea etches are well cleaned, dunged, and ſown with wheat upon once ploughing, ten pecks to the acre: part of the wheat etches are ſown with rye for ſpring food, and then prepared again in courſe for turnips.

Upon the heavier land, fallow occaſionally for turnips, or for coleſeed for ſpring food; but moſt generally for oats or barley, with which ſow clover from 14 lb. to 16 lb. to the acre; part of which is dunged when young, and followed with wheat the enſuing autumn upon the clover ley. The etches of that wheat, which was ſown upon the undunged clover land, are dunged in the courſe of the winter, and ſown with beans, two furrows upon a yard-wide ridge:

Theſe

Theſe are kept well hoed through the ſummer, and again ſown with wheat upon once ploughing. Where the land is in high condition, a crop of oats will ſometimes be taken, but the more general practice is to ſow a few tares for ſpring food, and then make a thorough ſummer fallow for ſpring corn.

From this management, and the aid of ſuch foreign manure as can be conveniently obtained, this diſtrict averages according to the index table,

23	buſhels	2 pecks	of Wheat per acre
34	ditto	3 ditto	of Barley
35	ditto	2 ditto	of Oats
20	ditto		of Peas
23	ditto	2 ditto	of Beans

The ſaid table alſo further ſhews that the average rent of the arable land is 14s. 6d. per acre. That the paſtures of the firſt quality equal 26s. 7d. thoſe of the ſecond quality 14s. 7d. a conſequent difference of 12s. per acre, between thoſe which are partially, and thoſe which are perfectly improved. That the average of the meadow land is 30s. 3d. per acre, and that where the arable and paſture are run together, and let without diſtinction of price, thoſe lands average 14s. 7d. per acre. That the hop land is 30s. per acre. That the under woods are cut down at eleven years growth, and that they ſell at the ſtub for 3l. 10s. per acre. That there are 3770 acres of waſte commons (including Tiptree Heath) which by incloſure, are capable of being improved 10s. 4d. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 5¼d. and that the ſame has riſen, within twenty years 1s. 2¼d. per acre; and laſtly, that the poor's rates upon the preſent rack rents are 3s. 7¼d. and that the ſame have riſen 10¼d. in the pound, within ten years.

Upon

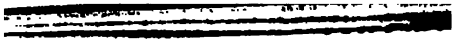
[redacted]

soil.

	NAMES of PARISHES	Beans.	Tythes great & small: Composition per acre.	Tythes great & small: Composition per £. Rent	Tythes great & small: Increase in 20 years.	Poor's Rates. Poor's Rates in £.	Poor's Rates. Increase in 10 years.	
		b *bush.*	*s. d.*	*s. d*	*s. d.*	*s. d.*	*s. d.*	
1	FEERING . . .	24	3 11	- -	1 0	4 0	0 6	
2	EAST THORP							
3	MESSING . . .							
4	INWORTH .							
5	GREAT BROX	24	2 6	- -	0 6	4 0	1 0	
6	LITTLE BRO	- -	- -	4 0	- -	4 6		
7	WICKHAM BI	- -	3 0	- -	- -	4 6	1 0	T
8	LANGFORD.							
9	HETBRIDGE							
10	LITTLE TOT							
11	GREAT TOT							
12	TOLESHUNT	22	4 0	- -	2 0	4 0	1 0	
13	GOLDHANGE	- -	4 0	- -	- -	4 0		
14	TOLESHUNT	24	4 0	- -	1 0	4 6		
15	TOLESBURY	- -	4 0	- -	- -	4 0		
16	MALDEN . .	30	2 6	- -	- -	4 0		
17	WOODHAM M	- -	- -	- -	- -	5 6	0 9	
18	WOODHAM M	- -	3 6	- -	- -	4 0		
19	HASELEY . . .	- -	3 6	- -	1 3	2 0		
20	DANBURY . .							
21	LITTLE BADI							
22	SANDON . .	- -	3 6	- -	1 0	3 0	0 6	
23	GREAT BADE	- -	- -	3 6	- -	1 0		
24	WIDFORD . .	24	- -	- -	- -	2 9	- -	T
25	CHELMSFORI							
26	WEST HANN	20	5 0	- -	2 6	4 0	0 9	
27	EAST HANNI							
28	SOUTH HANN							
29	RUNWELL . .							
30	DOWNHAM .							
31	STOCK . . .	- -	2 0	- -	- -	3 0		
32	BUTTSBURY	- -	3 6	- -	0 6	2 6		
33	MOUNTNEYS	- -	3 0	- -	1 0	3 0		
34	INGATESTON	20	3 0	- -	1 0	1 8		
35	MARGRETTI							
36	GREAT BURS							
37	LITTLE BURS	24	3 0	- -	- -	3 6		
		24	4 0	- -	1 6	3 0		

f value between the ploughed,
aterial information (as it was

General Average .											
Open field, partially waste land	0	23 2	3 5½	- -	1 2½	3 7½	0 10½				
Difference											



pon ſumming up the ſeveral ſtatements of the value of
ur, and price of proviſions through this diſtrict, they
l on an average thus: beef 4½d. per lb.—mutton 5d.
lb.—veal 5¾d. per lb.—freſh pork 6d. per lb.—pickled
8¾d. per lb.—butter 10½d. per lb. and cheeſe 6d. per lb.
ouſhold flour 2s. per peck, and potatoes 19d. per buſhel,
ed day-labour in the ſummer 9s. 6d. in winter 9s. per
k. Threſhing wheat 2s. 6d.—barley 1s. 8d.—oats 1s.
—peas 2s. 4d. and beans 1s. 2½d. per quarter. Head
's wages, board and lodging included, 10l. 13s. boys
er ann. with the ſame; womens wages 4l. 13s. board,
ning, and lodging included; girls 2l. per ann. with the
e.

DISTRICT

DISTRICT THE SEVENTH.

Temperate and heavy mixed ſoil, upon a brown tender clay, a gravelly loam, a brick and a tile earth.

BEGINNING at PURLEY, where the ſoil in general conſiſts of a ſtrong deep loam upon a brick earth; and where hollow draining has been done at ſix and eight yards apart, but with ſo ſmall an effect, as in a great meaſure to diſcourage that important practice. From Purley to MUNDEN, a level country, with a deep rich loam upon a brick earth; this continues ſoutherly towards LATCHINGTON, where the land lies well for draining, and forms an excellent wheat ſoil upon a brown tender clay. Proceeding eaſt towards MAYLAND and STEPLE, the ſoil admits of little variation, forming on the higher parts of the country, a ſtrong heavy clay; which northerly, and inclining to the embanked marſhes that border upon the Blackwater, is loſt in a ſoil of a more free and tractable nature upon a deep gravelly loam. Thence north-eaſterly through ST. LAWRENCE, extending to, and through BRADWELL, a deep hazel coloured loam upon a brown tender clay, and a rich friable mould upon a gravel. Returning thence ſouth, through TILLINGHAM, the ſame rich friable mould prevails, forming at ASHELDON, a lighter mixture upon a gravel, which at DENGY is agreeably varied with ſeveral ſpots of very good turnip land.

At SOUTHMINSTER the land eaſt of the village, and abutting upon the embanked marſhes, conſiſts of a light hollow gravelly ſoil, abounding with ſprings that are conveyed

from

from off the land at a conſiderable expence through hollow drains.

Theſe drains are made three feet deep, and two inches wide at the bottom, filled two feet deep with ſhingle brought from the ſea ſhore, or ſifted gravel—taking labour, and materials, equally into the account, they will coſt two-ſhillings and ſix-pence per rod, and is an expence very generally incurred upon theſe kind of lands.

Upon land where the ſides of the hollow drains are not liable to crumble or fall in, the drains are made in the uſual manner, filling them with wood and ſtraw; and at an expence for labour only of 3s. 6d. per ſcore rods. Weſtward from the village is a deep white ſandy clay; thence northerly, a ſtiff heavy tough clay, upon a tile earth.

The embanked marſhes, which are here very productive and extenſive, conſiſt chiefly of a deep hazel-coloured loam, upon a very fine ſea ſand or ſilt. This property is extremely valuable; and would be much more ſo were it poſſible to command a ſupply of water during the dry ſeaſon: ſo long as the ſprings are fluſh upon the higher country, the water continues tolerably abundant and wholeſome; and is diffuſed through the different levels with great equality, judgment and œconomy: but when thoſe reſources fail, which unfortunately is too often the caſe in the ſummer ſeaſon, the diſtreſſes in theſe marſhes for drinking-water, and for fencing, are very great indeed.

A conſiderable expence is annually incurred through this neighbourhood in chalking the ſtiff heavy lands, and of

 which

which the following account may be taken as the average per ann.

Eight waggons of 90 buſhels each, coſting at the wharf, or landing place, 11s. per load - -	4	8	0
Carting, filling, and ſpreading the ſame at 10s. 6d. per load - - - - - - - - - - -	4	4	0
	£.8	12	0

Which dreſſing is ſuppoſed to act with an almoſt unabating force for the firſt twenty years, following a lapſe of three years (which time is allowed for the chalk to melt down and incorporate with the ſoil) from the time that it was firſt applied or ſpread upon the ground. The ſame expence frequently occurs in chalking the marſhes; but its effects there, are neither ſo obſervable, or ſo permanent, as upon the ſtronger higher lands.

The culture of carraway, coriander, teazel, white muſtard and coleſeed, is occaſionally attended to and anſwer very well upon freſh land, where the depredations of the ſlug, and the wire worm, are the almoſt certain deſtruction of the firſt crops of grain.

The ſoil and other circumſtances of BURNHAM are very ſimilar to the above, ſaving that at Burnham, there is a greater convenience of water carriage to procure foreign manure, or to ſhip the produce of the farm at a leſs expence for market.

A thin gravelly ſoil prevails on the eaſt ſide of CRICKSEA church. Thence ſoutherly, the ſoil varies from a ſtiff clay upon the hills, to one of a more gentle nature, abutting upon the marſhes; weſterley towards Althorne, a ſtrong

ſtrong heavy clay upon a tile earth; but thence north, and binding upon Southminſter, a more temperate and tractable ſoil upon a ſandy loam. At ALTHORNE, the ſoil in general is formed of a ſtrong heavy compact clay, thinly ſtapled upon a tough retentive tile earth. Hollow draining has been lately introduced, and is now practiced with very good effect, upon the wet heavy lands in this pariſh; the drains are from eight to twelve feet apart, and coſt (labour and materials included) from 3l. to 3l. 12s. per acre. The ſoil of NORTH FAMBBRIDGE is a deep tender loam, upon a brown clay; which, with a conſiderable part of the embanked marſhes that are under the plough, has been much improved by the application of from ſeven to eight waggon loads of chalk per acre; this is obtained with great conveniency by means of the river Crouch, which affords an opportunity of its being landed (together with any other foreign manure) upon all the different farms through the pariſh.

Whilſt the marſhes remain in paſture, their herbage is very indifferent, and incapable of fattening a beaſt of more than twenty-four ſcore; and even not that, in a dry ſummer. Small Welſh runts, and Norfolk ewes, are the ſtock uſually grazed; but the latter muſt be kept upon the clovers during the early part of the ſummer, or the lambs will not thrive. The Southdown breed are now trying upon the marſhes, but as the experiment is quite new, no report can be made thereon.

As the country riſes northerly towards COLD NORTON, STOW MARYS, and WOODHAM FERRERS, it breaks into hills, which are covered with a wet heavy ſoil, upon a brick and a tile earth. South from Woodham Ferrers and towards Hockley, the ſoil becomes of a more gentle

nature, affording a ſmall portion of turnip land, lying upon a gravel. Towards RETTENDEN the ſoil alſo varies; but through the higher parts of that pariſh, a cloſe wet heavy ſoil prevails, upon a tile earth: here a conſiderable inconvenience is often experienced through the want of water, there being no other dependance than pits, which are generally dried up in ſummer, and only two ſprings (and they not conſtant) fit for domeſtic uſe in the whole pariſh.

The accident of ſlipping calf, which through this neighbourhood was very prevalent ſome years ago, is now thought to be very much checked by the practice of bleeding the cows when they are about one-third of their time gone with calf.

An evident want of cottages through this diſtrict occaſions that ſcarcity of hands which encourages a ſpirit of diſobedience as well among the natives as among thoſe trampers, upon whom the labour of the county in a great meaſure depends; even thoſe who have the care of the teams, ſeem totally diveſted of that pride, (in ſeeing their horſes look well) which ſo ſtrongly characterizes the ſame deſcription of ſervants in moſt other places. The maſter's eye, late and early, and his conſtant attendance in the ſtable, becomes as indiſpenſible as in any other department of his buſineſs. Thus adding to his other toils and anxieties, a duty, which in moſt places of the kingdom, the farmer's life is uſually exempt from.

The huſbandry of the more temperate ſoils in this diſtrict, is to fallow and manure for turnips, or coleſeed, the latter in general fed off, though it ſometimes is allowed to ſtand for a crop. The turnip, or coleſeed land, is ſown with oats or barley; together with ſixteen pounds of red clover to the acre.

acre. The clover ley ſown with wheat eleven pecks to the acre. The wheat ſtubbles dunged, and drilled with beans, two rows upon a four-furrow ridge; kept well hoed, and ſucceeded with wheat, which is ſometimes followed by oats, though more generally ſown with tares, fed off in the ſpring, and then thorough fallowed again for ſpring corn.

Upon the heavier land firſt fallow for oats, with which ſow clover dunged when young, and the ley ſown with wheat. The ſtubbles of which are thorough fallowed, dunged, and ſown with beans, which are kept well hoed, and again ſucceeded with wheat. The wheat ſtubbles are ſown with oats; and then fallowed again in courſe for oats or beans. This practice, aided by the foreign manure annually expended in the diſtrict, produces according the prefixed table

24 buſhels	1 peck	of Wheat
35 buſhels	2 pecks	of Barley
41 buſhels		of Oats
24 buſhels		of Peas
24 buſhels		of Beans per acre.

Which table alſo further ſhews, that the average rent of the arable land is 14s. 1d. per acre; that the prime paſture is 20s. the partially improved 13s. 9d. conſequently a difference in favour of the more perfectly improved paſtures of 6s. 3d. per acre. That the incloſed marſhes average 14s. per acre. That where the highland graſs and arable are let together, their average annual rent equals 13s. 10d. per acre. That there are 450 acres of waſte land, which by incloſure may be improved above its preſent annual value 11s. 4d. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 3¼d. and that the ſame has

increaſed

increaſed within twenty years 1s. 3d. per acre. That the poor's rates upon the preſent rack rents are 2s. 11d. and that they have increaſed within ten years 1s. ½d. in the pound.

The value of labour, ſervants wages, and price of proviſions, may be referred to the preceding diſtrict.

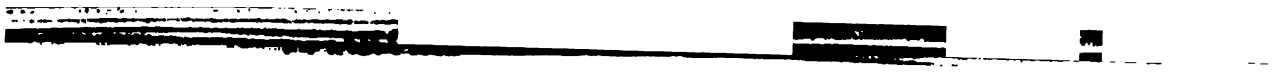
DISTRICT

l soil.

NAMES of PARISHES.	Tythes great & ſmall			Poor's Rates.		
	Compoſition per acre.	Compoſition per £. Rent	Increaſe in 20 years.	Poor's Rates in £.	Increaſe in 10 years.	
	s. d.	s. d.	s. d.	s. d.	s. d.	
URLEY	3 0	- -	1 0	4 0		
UNDEN	- -	- -	- -	3 0		
ATCHINGDON	- -	4 3	- -	3 6	2 0	
AYLAND						
TEPLE						
T. LAURENCE	3 9	- -	1 3	2 9	0 10	
RADWELL						
ILLINGHAM	5 0	- -	2 6	3 6		
SHELHAM						
ENGY						
OUTHMINSTER	2 6	- -	1 6	2 6	0 6	T
URNHAM						
RICKSEA	3 3	- -	1 1	2 6		
LTHORNE	3 0	- -	1 8	2 0	1 2	
ORTH FAMBRIDGE	3 0	- -	- -	1 9		
OLD NORTON						
TOW MARY's						
OODHAM FERRERS	3 0	- -	1 0	3 6	0 6	
ETTENDEN	- -	4 0	- -	3 0	1 6	

e between the ploughed,
l information (as it was

l Average	3 3½	- -	1 3	2 11	1 0¼	
ield, partially improved a						
aſte land						
nce	- -	- -	1 3	- -	1 0¼	



DISTRICT THE EIGHTH.

Temperate mixed ſoil, upon a gravelly loam, a gravel, and a brick earth.

BEGINNING at WICKFORD, whence eaſterly to RAWRETH, the ſoil is of a mild and tractable nature, well ſtapled and lying upon a brown tender clay; continuing the ſame courſe through HOCKLEY, the ſoil and ſubſtrata are very ſimilar; but thence to SOUTH FAMBRIDGE, a ſtrong and heavier ſoil, upon a brick earth, through which are found ſome ſmall veins of gravel. Eaſt of Fambridge church, and binding upon Canuden, the ſame character of ſoil prevails, the gravelly veins affording winter ſprings; which too frequently fail, or intirely vaniſh, in the dry ſeaſon. South, and binding upon Aſheldon, the ſoil is of a tender nature, upon a gravelly loam. Part of the embanked marſhes (which are here of conſiderable extent) are under the plough, and are uſually chalked with thirty-five Graveſend cart loads, of thirty buſhels each, per acre: delivered at the wharf or landing place at 3s. 7d. per load 6 5 5

This will make about twenty-ſix tumbrell loads of forty buſhels each; the carting of which upon the marſhes, including the driver, equals about 6d. per load — — — — — 0 13 6

Filling, ſpreading, and allowance of beer upon the ſame, at 2d. per load — — — 0 4 4

£. 7 3 3

The land ſhould be well cleaned before the chalk is applied, and which, at all events, ſhould be laid upon the ley or graſs

graſs ground for a few years, in preference to that which is ploughed or broken.

The greater part of the pariſh of ASHELDON conſiſts of a ſtrong heavy wet ſoil, upon a tough clay or tile earth, and a ſoil of a more tractable nature, upon a gravelly loam. In neither of theſe are there any living ſprings, ſo that water through the greater part of the year is brought from Rochford, four miles, for domeſtic uſe; and as the ponds that are formed for ſupplying the cattle are often dried up in the ſummer ſeaſon, inconveniences and expences are continually accruing that are almoſt inconceivable.

Aſcending ſoutherly towards RALEIGH, the ſoil is formed of a deep tender loam, upon a brick earth, which has derived very conſiderable advantages from hollow draining; but as the country is a good deal broken, it is ſtill found neceſſary to grip, or water furrow, at about two poles diſtant, upon the ſides of the hills, to break the fall of the ſurface water, which otherwiſe would grind and wear the land into gullies, by waſhing the looſer ſoil into the lower grounds.

Deſcending eaſt from Raleigh towards HAWKESWELL, a deep mellow loam, upon a tender clay, under which, in many places, at the depth of about two feet, are found veins of red and yellow ſand. In this direction were obſerved ſome excellent turnips. The deep free ſoil continues to ROCHFORD, where it forms a rich friable mould, upon a ſandy loam, and gravel abounding with ſprings, that are not only conſtant, but furniſh an ample ſupply of wholeſome water to the adjoining neighbourhood, in the dryeſt ſeaſons. Coleſeed is frequently ſown and fed off green with hogs, and then left to ſtand for a crop, which is ſaid to anſwer extremely well.

From

From Rochford, a ſtrong rich country to LITTLE STAMBRIDGE, which continues to the riſe of the hill at CANUDON, here the ſoil gets ſomewhat lighter, but deſcending towards PAKELSHAM, a deep rich hazel coloured loam, extending to, and is bounded by the embanked marſhes

In this neighbourhood, a great deal of coleſeed is ſown for ſheep food, or mown and carried to the fattening cattle, to which it is given in the yard, or in the ſtalls, mixed with hay. The dung produced in this way, is eſteemed particularly ſtrong and good.

From Pakelſham to GREAT STAMBRIDGE the land is of a deep free and tractable nature, upon a brick earth, in which there are found ſome veins of gravel, that continue without any material variation through Rochford to EASTWOOD: returning thence eaſterly, through SUTTON and SHOPLAND, a rich deep ſoil prevails, upon a brown tender clay. Thence through BARLING, LITTLE and GREAT WAKERING, NORTH and SOUTH SHOEBURY, the ſoil is ſimilar to the laſt deſcribed, ſaving that along ſhore, to the eaſtward of the Neſs Point, and extending towards Southend, a light gravelly ſoil prevails, upon which turnips are cultivated to great advantage. Thence to SOUTH CHURCH and PRITTLEWELL, the ſame character of ſoil, which to the northward of Southend, and in the more interior parts of thoſe pariſhes, is loſt in a deep rich mellow earth, upon a gravelly loam and brick earth.

Weſterly from LEE, and continuing the ridge along ſhore towards South Bemfleet, a gravelly ſoil prevails, ſimilar to that at Southend, Thence northerly, through HADLEY, towards Weſtwood, a dry ſoil upon a gravel, and one more wet and heavy upon a gravelly loam: this mixture continues

to South Bemfleet and Thundersley, where the country being much broken into hills, affords a great variety of soil, the general character of which, is that of wet heavy land.

The course of husbandry upon the lighter lands in this district, is to dung and prepare for sowing turnips by Old Midsummer, or for coleseed somewhat earlier; this latter is fed with hogs, and then left to stand for a crop; mown and carried to the cattle, or fed off with sheep; in either of the latter cases, the coleseed land is sown with oats or barley, together with sixteen pounds of red clover, or twelve pounds of trefoil and one bushel of rye grass to the acre. The turnip land is sown with spring corn and grass seeds in like manner. When the coleseed is left to stand for a crop, it is usually succeeded with white peas, winter or summer tares for a crop; the etches of which, are well cleaned and sown with wheat the same season, as are the clean clover leys. Where clover and ray grass are sown, the land generally lies two years under grass, and is then sown broadcast upon the flag, with white or grey peas. The pea etches are sown with wheat, the stubbles of which are dunged, and winter fallowed for oats or barley, and then lie over in course for turnips or coleseed; this latter practice forms a double routine or series of crops, which require eight years. To render the whole more completely distinct and intelligible, it is stated thus:

1st Series		*2d Series*		*3d Series*
1 Turnips	or	1 Coleseed	or	1 Tares or Peas for a crop
2 Oats or Barley		2 Crop ditto		2 Oats or Barley
3 Clover		3 Peas or Tares		3 Clover and ray Grass
4 Wheat		4 Wheat		4 Ditto
				5 Peas
				6 Wheat
				7 Barley or Oats
				8 Turnips or Coleseed

In this rotation of crops no fallowing is neceſſary, but in a ſhort preparation for turnips or coleſeed.

Upon the temperate lands, firſt, thorough ſummer and winter fallow for oats or barley, with which ſow ſixteen pounds of red clover, or in lieu thereof, ſix pounds of white Dutch clover, and ten pounds of trefoil per acre. Clover ley ſown with wheat, the etches of which are dunged, and ſown with beans that are kept well howed through the ſummer, and again ſown with wheat; after which, a crop of oats or barley is ſometimes taken, but moſt generally the wheat ſtubbles are haulmed, and ſown with winter tares for ſpring food, then dunged and prepared for coleſeed, fed with hogs, left for a crop, and ſucceeded with wheat; the ſtubbles of which, are dunged, ſown with beans, which are kept well hoed and fallowed by a ſecond crop of wheat; then fallow in courſe, for oats or barley. In this routine of crops, a thorough ſummer and winter fallow, and a ſhort preparation for coleſeed only occurs once in twelve years. The whole is eſteemed clean good farming, and when the bean land is not too looſe and mellow, it is always ſure to produce excellent wheat; this practice, aided by the application of chalk, noticed in the journal, produces according to the index table, the following average:

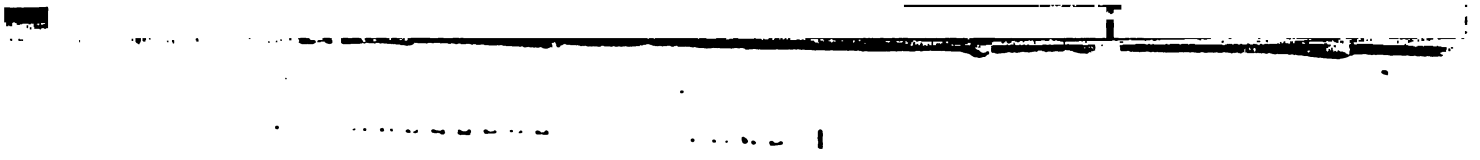
26 buſhels	2 pecks	of Wheat
34 buſhels	3 pecks	of Barley
40 buſhels	2 pecks	of Oats
23 buſhels		of Peas
27 buſhels		of Beans per acre

The ſaid table alſo ſhews, that the average rent of the arable land is 14s. 8½d. of the paſture 15s. of the embanked marſhes 11s. 1½d. of the meadow land 15s. and of

the highland paſture, when let together, and without diſtinction of price, 14s. 10d. per acre. That there are 200 acres of improvable common, which by incloſure, may be augmented in its annual value 9s. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 4½d. and that the ſame has increaſed within twenty years 1s. ½d. per acre. That the poor's rates upon the preſent rack rents are 3s. 1d. and that the ſame have increaſed 10½d. in the pound within ten years.

The value of labour and price of proviſions is referred to diſtrict the ſixth.

DISTRICT



all	Poor's Rates.			
Arable per acre.		Increaſe in 20 years.	Poor's Rates in £.	Increaſe in 10 years.
Enclosed.	Open Field.			
s. d.	s. d.	s. d.	s. d.	s. d.
14 0	- -	- -	2 6	
13 0	- -	- -		
13 6	- -	1 6	2 0	0 6
- -	- -	- -	5 0	
13 6	- -	- -	4 0	
15 0	- -	0 6	3 0	1 2
15 0	- -	1 0	3 6	- - C
15 0	- -	- -		
16 0	- -	- -	3 0	
16 0	- -	- -	3 0	
16 0	- -	- -	3 0	
16 0	- -	- -	3 0	
17 0	- -	2 2	3 6	
12 0	- -	- -	2 6	1 0

GENER*the ploughed,*
annual on (as it wa.
conveyc

14 8½	- -	- -	0½	3 1	10½	C
- -	- -	- -				
- -	- -	- -	0½	- -	10½	

nd

DISTRICT THE NINTH.

COMPREHENDING

The Iſlands of FOULNESS, WALLASEA, POTTON, HAVEN-GORE, NEW ENGLAND, *and* CANVEY.

All conſiſting of a deep rich hazel coloured loam, upon a fine ſea ſand or ſilt, ouze, or ſea clay: The huſbandry of which, equally applies to the embanked marſhes, and all ſuch lands as have been produced by, and encloſed at different times from the ſea.

THROUGH the whole of this country, which is evidently derived from the ſame ſource, and of which there can be no doubt of its having been originally formed and ſuperinduced by the ſea; the correſponding levels, or thoſe intakes effected at the ſame period of time, are found to conſiſt of a perfectly ſimilar ſurface and ſubſtrata, and to be equally tender, rich, and luxuriant in all their productions. The higher levels, or thoſe intakes which have been accompliſhed in more modern times, are, from the additional quantity of animal or vegetable remains, which the ſea water, ſince the earlier embankments has depoſited upon them, become ſo far abundant and generally fruitful in their produce, as in a great meaſure to diſregard the almoſt unceaſing operation of the plough.

On many of thoſe lands it is much to be regretted, that there is ſo great an indifference to reſtore to the ſoil, in the form

form of manure, the uſeleſs and putrid remains of its former produce.

Where the water upon the loweſt levels is run down to a proper point, and where any attention has been paid to the improvement of the ſurface, the herbage is more certain in a dry ſeaſon, and more applicable to the purpoſes of grazing, than upon the rich and deeper ſtapled lands, which form the higher levels.

A regular ſtep of aſcending planes is diſtinctly to be traced from the firſt embankments; riſing in richneſs and in height to the preſent ſaltings. Theſe are ſtill open to the ſea, and are liable to a ſlight overflowing from the top of the ſpring tides; and as every tide makes an increaſe in their height by depoſiting its ſediment on their ſurface; and as upon all theſe ſaltings there is a conſtant and regular increment of ſoil from the annual growth and decay of vegetables, theſe marſhes in a few years will be raiſed to the higheſt level of the tides, and thus without the induſtry of man will the ſea be excluded from the ſhores, and retire further from them.

From the ſituation, general ſtructure, and materials, of which theſe iſlands are formed; it is obvious, that they can afford no ſprings of water; and conſequently, that the only ſupply for drinking, or for ſencing, is to be obtained from the rain, or from the melted ſnows: this forms but a precarious and ſcanty dependance, which in the ſummer ſeaſon is frequently dried up, or by putrefaction rendered extremely injurious to the health of the inhabitants, and too frequently alſo to that of the horſes and cattle: Hence there are but few reſident occupiers in the iſlands; and in particular dry ſeaſons, the larger ſtock are driven from Foulneſs to Shoebury for water; and in like manner from the other iſlands,

and

and embanked marſhes, the cattle are driven at much expence and inconvenience to water upon the higher lands.

About two and a half acres of the feeding marſhes are uſually allowed during the ſix ſummer months, to the grazing of a runt of about thirty-ſix ſcore: horſes, cows, and ſheep are generally depaſtured in the ſame marſhes for the remainder of the year, feeding them down as cloſe, and as bare as poſſible by the end of January, at which time they are ſhut up for the ſpring, and for the early ſummer's growth.

Lincoln, Leiceſter, Southdown, and every breed of polled ſheep are preferred to thoſe of the horned kind. The home or marſh-bred wethers, from a croſs between the Lincoln and Welſh, when fat, at two years old, will weigh twenty pounds per quarter, and ſix pound to the fleece. The croſs between the Lincoln and Leiceſter at the ſame age, will weigh twenty-four pounds per quarter, and eight pounds to the fleece. Theſe breeds are held in equal eſtimation, and with proper care on the part of the ſhepherd, are always kept healthy, and found to anſwer extremely well.

The Scots and other cattle, brought from countries watered with lively and refreſhing ſtreams, are very ſubject to the red-water about Midſummer, but which being timely obſerved, the remedy is not very difficult. A ſcouring alſo frequently comes on about Michaelmas, which is only to be ſtopped by immediate removal and change of food; if long unobſerved or neglected, it always proves fatal. The pole-evil and fiſtula are extremely troubleſome among the horſes, every effort to prevent their gathering has hitherto proved ineffectual, and to cure them after the ulcer is broke, is held to be a very uncertain and almoſt endleſs taſk. The young horſes which are bred and depaſtured through theſe iſlands, in very dry ſeaſons,

ſeaſons, are ſubject to a diſeaſe, which relaxes their whole frame, and occaſions them to tumble and ſtagger about in a moſt extraordinary manner. They are frequently found ſitting upon their hind parts, like cats before a fire. This is referred to the badneſs of the water, and like the ſcouring among the bullocks, if taken in time, is to be remedied by an immediate removal to the higher lands, which gradually reſtores the uſe of the limbs; but there is no change of food, of ſituation, or of care afterwards, that can completely reſtore the animal to its natural vigour.

The moſt approved huſbandry in theſe iſlands, and in thoſe embanked marſhes along the coaſt, which have been encloſed a great length of time from the ſea, and have not been chalked; is firſt to apply chalk upon the ley or ſwerd ground, about ſix waggon loads, of ninety buſhels each, to the acre. This dreſſing is recommended to lie upon the ſurface for three or four years; the marſh then to be very neat and fleetly ploughed, and ſown with white oats upon the flag, from ſixteen to eighteen pecks per acre. The oat etches ſown with white or brown muſtard, a peck and a half per acre, and followed with beans, ſpringed or ſown every other furrow, from twelve to fourteen pecks per acre. The beans hoed twice, at 10s. 6d. per acre, to which occaſional hand-weeding is added, coſting from 6s. to 8s. per acre. The bean etches are ſown with wheat broadcaſt, eleven pecks to the acre, left neatly dreſſed, and well water furrowed, coſting 2s. 6d. per acre. The wheat is twice carefully wed and hoed, at an expence of from 12s. to 14s. per acre, and followed by oats, with clover fourteen pounds to the acre. In the ſpring and earlier part of ſummer the clover is fed with ſheep, then left for ſeed, and ſucceeded with wheat, which is left well water furrowed and in the ſpring

and

er following is wed as before. Three ſeries of ſeven years each, will thus occupy a term of years, and will run as follows:

	2d Series	*3d Series*
1	Summer fallow	Tares mown or fed off
2	Coleſeed	Then ſow muſtard or coleſeed for a crop
3	Beans	Beans
4	Wheat	Wheat
5	Oats	Oats
6	Clover	Clover
7	Wheat	Wheat

ıtine of cropping is according to the common ſtice, and produces on an average of twenty-one

30 buſhels of Wheat
32 ditto of Beans
40 ditto of Oats
24 ditto of Muſtard
30 ditto of Coleſeed per acre

ed wages to the ploughmen through the iſlands, he winter months, 10s. 6d. per week wet or dry; days are long enough to work after attending their k is either let out to them, or 6d. per day allowed r jobs; the former the labourer always prefers. t uſually begins the firſt week in Auguſt, and ends middle of September. The price for cutting, nd inning of wheat, oats and beans, 10s. 6d. per an allowance of four buſhels of malt, and two ops per man; each man will harveſt of this corn een acres; to this may be added as harveſt work, thraving the muſtard ſeed at 10s. 6d. per acre, g 5s. per quarter, done in the field upon a ſheet,

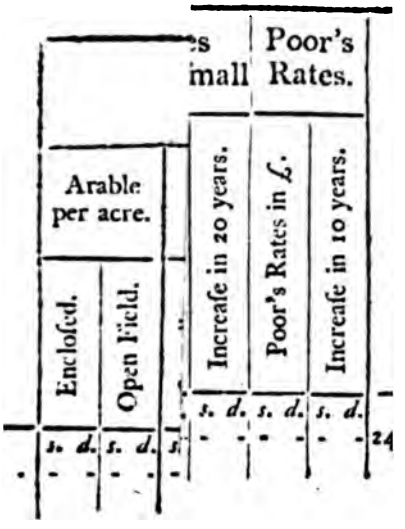
and in the ſame manner as coleſeed; which latter crop is not included in the harveſt, being cut and thraſhed by the bag of two buſhels each, coſting from 10d. to 16d. per bag, as the crop may be more or leſs caſty or valuable.

The price of proviſions at this time upon the iſlands, is beef 5d. per lb.—mutton 5½d. per lb.—veal 6d. per lb.—freſh pork 6d. per lb. and pickled pork 8d. per lb.—houſhold flour 2s. 2d. per peck, and potatoes 2s. per buſhel. The lookers or ſuperintendants over the farming buſineſs in the iſlands, generally accommodate the workmen upon the different farms. They cook, waſh, lodge, and find them in ſmall beer for 2s. per week.

The iſlands in general are free of great tythes, ſaving a ſmall modus paid by ſome particular farms to the neighbouring pariſhes. The vicariel tythes are generally compounded, and the poor's rates are from 1s. 6d. to 2s. 6d in the pound.

DISTRICT

D *soil.*


Poor's Rates.
mall
Increaſe in 20 years.
Poor's Rates in £.
Increaſe in 10 years.
Arable per acre.
Enclosed.
Open Field.
s. d.
s. d.
s. d.
s. d.
s. d.
24

DISTRICT THE TENTH.

Strong heavy mixed ſoil upon a brown clay, or brick earth, a gravelly loam, and a tough red clay, or tile earth.

THE country comprehended within the pariſhes of BUERS GIFFORD, PITTSEY, VANGE, BASILDON, LANGDON CRAY, RAMSDEN CRAY, RAMSDEN BELL-HOUSE, NEVENDEN, NORTH and SOUTH BEMFLEET, and THUNDERSLEY, is very much broken into hills, the ſides and tops of which, conſiſt o wet heavy ſoil upon a tile earth, much ſtronger than in the vallies and lower grounds.

The cloſeneſs and retentive nature of the red tough clay, which generally pervades this diſtrict, require that the hollow drains ſhould be made within twelve feet of each other. The uſual mode of forming them is thus: the drains are firſt drawn out, or opened ſix inches deep by ploughing three bouts, or ſix furrows to each drain, with the common foot plough; one ſpit of fourteen inches is then dug out with the land ditch ſpade, forming the drain twenty inches deep from the ſurface, and one inch wide at the bottom. This is filled with ſtraw only, and coſt, materials included, about 2s. 6d. per ſcore rods. The drains leading to the outfalls are uſually made about eight inches deeper than the lateral ones, filled with elm wood and ſtraw; which materials included, will coſt about 4s. 6d. per ſcore. The whole upon a fair trial, has been found to anſwer inimitably well.

The length of carriage through the northen parts of this diſtrict, has in a great meaſure precluded the uſe of chalk, and lime has there been ſubſtituted in its place, mixed with earth, and farm yard dung, in the following proportions per acre:

Seventy-five buſhels of ſhell lime, the firſt coſt of which at the kiln is 7s. per hundred of 25 buſhels	1	1	0
Carriage of ditto	1	1	0
Stubbing or digging 200 buſhels of road or hedge greens	0	3	0
Twice turning and mixing the ſame, with as much farm-yard and ſtable dung as when rotten, will make a bulk of 10 tumbrell loads or 400 buſhels	0	3	0
Filling and ſpreading ditto at 4s. per ſcore loads	0	2	0
Carting ditto upon the field from the heap 6d. per load	0	5	0
Driver half a day's work at 1s. 6d. per day	0	0	9
Allowance for beer at 2d. in the ſhilling upon 8s. 9d. being the value of all the above labour	0	1	5½
Total	£. 2	17	2½

N. B. No allowance is made for the value of the dung, or the expence of carting it from the yard to the earth heap, as the one is the natural produce, and the other the ordinary buſineſs of the farm.

The huſbandry of this diſtrict may be ſtrictly referred to that of No. 5. According to the tables hereto annexed, this diſtrict produces on an average of five years,

22 buſhels 2 pecks of Wheat
32 buſhels of Barley
32 buſhels 2 pecks of Oats
28 buſhels of Beans per acre.

From the ſame table it alſo appears that the average rent of the arable and paſture land is 13s. 4d. per acre. That 430 acres

il.

IMES

of

ISHES.

:e		Tythes great & ſmall			Poor's Rates.	
	Beans.	Compoſition per acre.	Compoſition per £. Rent	Increaſe in 20 years.	Poor's Rates in £.	Increaſe in 10 years.
ſh.	buſh.	s. d.	s. d.	s. d.	s. d.	s. d.
GIFFORD . . .						
Y	- 24	- -	3 6	- -	2 0	
. . . . .						
ON	- 32	3 6	- -	1 0	4 0	
ON CRAY . .	- -	- -	- -	- -	4 0	1 0
EN CRAY . .	- -	- -	- -	- -	4 0	1 0
EN BELL-HOU						
DEN						
BEMFLEET .	- -	4 0	- -	0 10	1 8	
BEMFLEET .	- -	3 0	- -	1 6	2 0	
DERSLEY . . .						

of value between the ploughed,
material information (as it wa

age	- 28	3 5	- -	1 1¼	2 11½	1 0		
artially improved								
d	- -	- -	- -	1 1¼	- -	1 0		
. . . . .								

acres of commons may be encloſed to advantage, and advanced in their annual value 7s. 4d. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 5d. and that the ſame has increaſed 1s. 1¼d. per acre within twenty years; and alſo that the poor's rates upon the preſent rack rents are 2s. 11¼d. and that they have increaſed 1s. in the pound within ten years.

The value of labour and price of proviſions are to be referred to the next enſuing.

DISTRICT

DISTRICT THE ELEVENTH.

Being that of a temperate mixed ſoil, upon a ſandy and a gravelly loam, a pure ſand, a pure gravel, a chalk, a brick, and ſome tile earth.

BEGINNING at DUNTON, where the ſoil in general is of a thin cold nature, upon a brown clay. Aſcending thence to LANGDON HILLS, a gentle ſandy loam prevails upon a gravel, intermixed with veins of a compact loam upon a brick earth. The lower part of the pariſh abutting upon Vange conſiſts of a wet heavy ſoil, upon a tile earth. Theſe laſt lands are particularly ſubject to black graſs, and a yellow weed called joy, or wild-gold: fallowing for ſpring corn is admitted to be the moſt effectual way of deſtroying the black-graſs; and hoeing and weeding (which by the bye is an almoſt endleſs labour) the wild-gold.

Southerly, to FOBBING, CORINHAM, and STANFORD LE HOPE, the ſoil is of a light and gentle nature, affording excellent turnips: This continues north-weſterly to HORNDON ON THE HILL, where the land lying weſt of the village, towards Orſet, and Bulvan, conſiſts of a thin wet heavy ſoil upon a tough red clay.

At MUCKING a well ſtapled gravelly loam, and a lighter ſoil upon a gravel. Thence through EAST to WEST TILBURY, the higher parts of the country conſiſt of a thin burning ſoil upon a gravel; and the ſides of the hills which hang towards the embanked marſhes, of a deep gravelly

ly loam, abounding with ſprings, that are conſtant
gh the year, and afford an excellent ſupply of water to
jacent marſhes in the dryeſt ſeaſons.

eſterly towards CHADWELL, LITTLE and GREYS
RROCK, the higher country is equally broken into
and the low land or marſhes, are formed of a deep
ndy loam upon a ſilty clay or ſea ouze, and are well
ed with water through the dryeſt ſeaſons. At the
of from ten to fifteen feet below the ſoil at Greys
rock, a ſtratum of chalk is found of the ſame quality
hat on the oppoſite ſide of the Thames, at Graveſend.
urface and ſtructure of the highland and marſh country
rly the ſame through WEST THURROCK and
FLEET; but aſcending thence eaſt towards STIF-
D, and thence northerly to ORSETT and BULVAN,
t gravelly ſoil upon a gravel, a brown tender clay, a
and a brick earth.

e commons and low grounds in theſe pariſhes, called
n, though ſtrong good land, and in general affording
good herbage, are, from their being ſubject to frequent
ations from the higher country, found to communi-
he rot in ſheep, and at ſuch times very much to
the cattle that depaſture upon them.

oceeding thence ſoutherly to CHILDERTON,
AT HORNDON, INGRAVE, and HUTTON,
t tender ſoil, upon which turnips are partially cultiva-
nd a firm ſtronger ſoil of a good ſtaple, upon a brown
yellow or a woodland clay; the whole affording ex-
t paſture, and very good corn land. Croſſing the
road, and proceeding thence weſterly through SHEN-
D, and thence ſoutherly to SOUTHWEALD, an
hazel

hazel coloured loam of a fair ſtaple, upon a brick earth, and a lighter ſoil upon a gravel.

The heavier lands in this neighbourhood, might be much benefitted by hollow draining, but this material improvement is too much neglected, nor is it without pain to be obſerved, that ſo little attention is paid to the removal of the road and hedge greens. Theſe often riſe above the level of the fields and highways, and by preventing the diſcharge of the water, prove as injurious to them, as they are a reproach to the farmer who ſuffers them to remain ſo: the incloſures too, in many places, are unneceſſarily ſmall; the land is thus choaked and ſmothered with uſeleſs hedgerows, that are filled with old pollards, and rubbiſh of every kind, which draw and exhauſt the land for ſeveral poles deep in every field; for this latter evil however, it is but juſt to obſerve, that probably no blame ought to attach upon the tenant farmer.

Proceeding ſoutherly from ſouth-weald to GREAT WARLEY, a mixture of gentle ſoils, which to the eaſtward of the village, and towards LITTLE WARLEY are gradually loſt, in a ſtrong heavy ſoil upon a yellow clay.

The aſpect of the country here is broken and irregular, and although the ſides of the hills are found to teem with a number of ſprings, they are not ſo generally a ſubject of complaint, as in many other places.

The land lying on the north ſide of the churches of CRANHAM and UPMINSTER, forms a cold wet ſoil of a thin ſtaple upon a tile earth. Thence ſoutherly to NORTH and SOUTH OKENDEN, a deep gentle loam upon a tender clay and gravel. Thence to AVELEY a well ſtapled friable mould upon a gravelly loam, and a thin dry ſoil upon

nk ſand. The highland parts of this pariſh may be ntageouſly employed in the culture of turnips, wheat, y, and oats, either broadcaſt or in drills; and though common huſbandry in general prevails, the following m is particularly recommended, being grounded on the tice of a very intelligent farmer in this pariſh; viz. wheat bles ſown with tares or rye for ſpring food, then dreſſed raw dung, ten loads to the acre, ploughed under upon yard ſtetches, carrying the furrows or ſlices about ten es wide. The ground is then planted with potatoes, ing the ſeed in upon every furrow, at the diſtance of ten es apart, and about four inches deep; thus forming a re of about ten inches, from plant to plant, and coſting cutting, dibbing, and dropping the ſets, about 8s. per . In the courſe of the ſummer, the plants are once and moulded up, at 4s. 6d. per acre. The planting is rally finiſhed by the firſt of June; and about the firſt of ember the crop is ripe, and ready to be taken out of the nd, which operation is uſually performed with a three-ged fork, and coſt, gathering and houſing included, t 40s. per acre. The average produce is eſtimated at tons, and reckoning 126 lbs. to the cwt. will equal 20 lbs. per acre. As ſoon as the potatoe land is cleared, properly prepared, which will generally be accompliſhed the middle of November, white hotſpur peas are ted for podding, for the London market, and are uſually in the field, at 5l. per acre, reſerving the haulm or ſtraw ay, which in a favourable ſeaſon, makes excellent food horſes or cattle. The pea land is then well cleaned the horſe hoe, and upon once ploughing, turnips are n; and juſt before the young plants are obſerved to be ing the ground, the field receives a light top dreſſing of aſhes, or the moſt portable manure that can be con-

 veniently

veniently obtained. This dreſſing, upon frequent trial, has been found to have had a very good effect in preſerving the infant turnip plant from the depredations of the fly. The turnips are generally hoed at 5s. per acre, fed off with ſheep, and ſucceeded with oats or barley; drilled nine inches apart, with Cook's machine, requiring for ſeed, about four buſhels of the former, and three buſhels of the latter, and each yielding about forty buſhels per acre. A ſecond drilling takes place to put in the clover ſeed, which is generally depoſited in the intervals between the rows of corn ten pounds to the acre; is uſually dunged when young, and is always obſerved to be a ſtronger, more uniform, and better plant, than where one-third more ſeed is ſown broad-caſt to the acre. Each drilling operation for grain and ſeeds, every expence included, is allowed to coſt 9d. per acre. The clover ſtands one ſummer, and is then ploughed under, and the land in like manner is drilled with wheat eight pecks, producing upon an average, twenty-four buſhels per acre. The wheat ſtubbles are haulmed immediately after harveſt, and then ſown with rye or tares for ſpring food; the ſame courſe repeated, and which in the form of a Dr. and Cr. account will nearly ſtand thus per acre:

Dr.			
First year, ploughing the wheat ſtubbles, ſowing and harrowing in the tares or rye	0	6	0
Cleaning and ploughing the tare or rye ground for potatoes	0	5	6
Filling, carting, and ſpreading the dung	0	7	6
Cutting, dibbing, and dropping the potatoe ſets	0	8	0
Hoeing and moulding up the plants	0	4	6
Digging, gathering, and houſing the potatoes	2	0	0
Cleaning, ploughing, and ſowing the potatoe land with hotſpur peas	0	6	0
Cleaning, ploughing, horſehoeing and ſowing the pea land with turnips	0	7	6
Firſt coſt and expence of applying the top-dreſſing	1	2	6
Hoeing the turnips	0	5	0
Ploughing and preparing for oats or barley	0	5	0
Drilling ditto	0	0	9
Ditto the clover	0	0	9
Filling, carting, and ſpreading dung upon the young clover	0	7	6
Weeding the oats or barley	0	1	0
Harveſting ditto	0	5	6
Ploughing the clover ley for wheat	0	5	0
Drilling ditto	0	0	9
Hoeing and weeding ditto	0	1	6
Harveſting ditto	0	5	6
Haulming the ſtubble of ditto	0	2	0
Thraſhing five quarters of barley at 2s. per quarter	0	10	0
Ditto of three quarters of wheat at 3s. 3d. per quarter	0	9	9
Seed of wheat, two buſhels	0	11	0
Seed of barley, three ditto	0	9	0
Ditto of turnips	0	1	0
Ditto of peas, four buſhels, at 4s. per buſhel	0	16	0
Ditto of tares or rye, two buſhels and a half, at 5s.	0	12	6
Ditto of clover, 10 lbs. at 4d. per lb.	0	3	4
Ditto of potatoes, 300 lbs.	0	6	0
Five years rent at 12s. per acre	3	0	0
Poor's and other pariſh rates at 4s. in the pound	0	12	0
Tythes, great and ſmall, at 5s. in the pound	0	15	0
Total expences	15	12	4
Profit in five years per acre to cover the intereſt of the capital employed	23	10	2
	£. 39	2	6

Cr.			
First year, tares or rye for ſpring food	1	10	0
Ditto 15,120 lbs. of potatoes at a farthing a pound	15	15	0
Second year, hotſpur peas	5	0	0
Ditto, turnips	2	12	6
Third year, barley 40 buſhels at 3s. per buſhel	6	0	0
Fourth year, clover	1	13	0
Fifth year, wheat 24 buſhels, at 5s. 6d. per buſhel	6	12	0
	£. 39	2	6

As the article of potatoes conſtitutes a very principal part of the profit in the above ſtatement, and as that crop is charged to the credit of the account, at the loweſt poſſible average quantity and price, it may not be improper in this place, further to ſhew, how the potatoes are appropriated, and to what extent they prove beneficial to the farmer.

Fifteen thouſand one hundred and twenty pounds is ſtated to be the loweſt average produce per acre. In the preſent inſtance, this produce undergoes a preparation with ſteam, which, including the waſhing, will coſt 2d. per 100 lbs. To every 300 lbs. of potatoes thus waſhed and ſteamed, is added half a pint of ſalt, and occaſionally a ſmall portion of ſulpher; and this quantity will be more than ſufficient to ſupport a horſe that ſhall be kept conſtantly at work for ſix days: 9000 lbs. will conſequently be required for the maintenance, and for the preſerving in good condition, a conſtant working horſe 180 days, or about one half of the year; and this may be ſtated at three-fifths of the uſual produce of an acre.

Horſes fed in this manner, will perform with the greateſt facility and eaſe, all the common labour of the farm, without hay or oats. The expence therefore, in wintering a team of five horſes, in the uſual way, when compared with this management, will ſtand as follows:

orſes fed with Potatoes.				*Horſes fed with Hay and Oats.*		
ee acres of potatoes				Five horſes, 26 weeks,		
oducing 45,000 lbs				requiring 2 buſhels		
ll ſupport 5 horſes				of oats a horſe per		
weeks, charging				week, in all 260		
e potatoes at ¼d.				buſhels, at 2s. 6d.		
r lb. they are equal				per buſhel - -	33	10 0
- - - -	46	17 6		Five horſes, 26 weeks,		
ning and ſteaming				requiring 24 lbs. of		
to at 2d. per 100				hay each horſe per		
s. - - - - -	3	15 0		night, equals 10 loads		
ee buſhels of ſalt				and one-third of a		
6s. per buſhel -	0	18 0		load, which at 3l. per		
hur - - - - -	0	2 6		load is - - -	31	0 0
	51	13 0				
ing a balance of	12	17 0				
£.	64	10 0		£.	64	10 0

vour of wintering a team of five horſes upon potatoes, ned, and thus prepared, rather than upon hay and oats.

his management of the potatoes has anſwered equally for feeding or fattening bullocks when mixed with t twice its bulk of cut ſtraw and hay.

rom Aveley, through WENNINGTON, RAINHAM, GENHAM to HORNCHURCH, a light ſand and elly loam, upon a gravel, affording a large portion of llent graſs, very good turnip and corn land. To the h, and bordering upon the River Thames, an extenſive of embanked marſhes, well-watered, and producing a riantly rich, and moſt valuable herbage. Extending ce northerly towards RUMFORD, South Weald, and inſter, a wet heavy ſoil of a thin ſtaple upon a cloſe clay.

Upon the more gentle ſoils, adjacent to the village of Hornchurch, the drill and potatoe huſbandry is conducted to great advantage: the practice however, in ſome meaſure, varies from that of Aveley, by ſometimes ſowing turnips immediately after tares or rye, and ſucceeding the potatoes with a crop of wheat in the place of peas. The potatoes alſo, which are deſigned for feeding cattle, are planted upon three-foot ridges, and managed in the ſame manner as at Finchingfield. Upon the loweſt computation, the potatoe crops average here, 20,000 lbs. to the acre.

Rapeſeed is tranſplanted at twelve inches ſquare upon the potatoe land, coſts a guinea per acre, generally ſtands for a crop, and is always found to anſwer extremely well. This practice is ſtrongly recommended where wheat ſtraw is in much demand, as the ſtraw of the rape ſeed, affords an excellent ſubſtitute for littering the ſtraw yards, the cow ſheds, and the ſtall fed cattle.

The general light land huſbandry of this diſtrict, is to fallow and dung for turnips, which are once hoed at 5s. 6d. per acre, and followed with barley upon once ploughing, fourteen pecks to the acre, with which is uſually ſown about twelve pounds of red clover, mixed with half a buſhel of clean ray graſs. This is dunged in the autumn or winter whilſt young, or upon the ley after two years, and previous to the ground being ſown with peas, which are gathered green for the London market. The pea etches are well cleaned, and ſown with wheat (and occaſionally with rye for a crop;) the ſtubbles of either, are ploughed immediately after harveſt, and the land ſown with rye or tares for ſpring food, which is generally fed off by the middle of May, and in very good time to prepare in courſe for turnips.

The common huſbandry of the heavier lands, is to ſummer fallow for wheat, oats or barley, and with either, or with

with all of theſe crops, ſow ſixteen pounds of clover to the acre; dung the young clover, and ſow wheat after one ſummer upon the leys of that clover, which ſucceeded the ſpring corn. Where clover is ſown in the ſpring of the year upon the wheat, it lies one ſummer, and the enſuing winter the clover ley is dunged, once ploughed, and drilled with beans, kept well hoed, and ſucceeded with wheat; the etches of which, are either winter fallowed for ſpring corn, or the wheat ſtubble haulmed, the land winter fallowed, and ſown with coleſeed by the firſt of June: this is fed completely off by Chriſtmas, and the land again is put into excellent condition for beans or other ſpring corn, by the middle of February. When the coleſeed ſtands for a crop, it is ſucceeded with wheat, unleſs the ground ſhould be extremely foul, and very much exhauſted, in which caſe, beans are made to ſucceed the coleſeed, as an intermediate crop, and preparation for wheat: by this change of crops and the frequent opportunities which offer through this diſtrict in procuring top dreſſings of portable manure, the produce upon an average, according to the index table, is:

23	buſhels	of Wheat
34	ditto	of Barley
34	ditto 3 pecks	of Oats
20	ditto	of Peas
24	ditto	of Beans

Which table further ſhews, that the average rent of the arable land through the diſtrict is 14s. 9d. per acre. That the paſture land of the firſt quality is 30s. and that of the ſecond quality 15s. 2d. per acre. That the marſh lands (chiefly bordering upon the River Thames) are 32s. 9d. and that where the highland graſs and arable land are let together, and without diſtinction of price, they average 15s. 6d. per acre. That the undergrowth of the woodlands is cut down every twelve

twelve years, and produces at the ſtub 3l. per acre. That there are 2520 acres of highly improvable waſte land, which by incloſure, may be augmented in its annual value 17s. 1d. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 5d. per acre. And laſtly, that the poor's rates upon the preſent rack rents are 3s. and that the ſame has increaſed, within ten years, 1s. in the pound.

The value of labour, ſervants wages, and price of proviſions through this diſtrict, are found to be as follows:

Beef 4½d. per lb.—mutton 5d. per lb.—veal 5½d. per lb.—freſh pork 6d. per lb.—pickled pork 9d. per lb.—butter 11d. and cheeſe 6d. per lb.—houſhold flour 2s. per peck, and potatoes 1s. 10d. per buſhel. Stated daily labour 10s. per week through the year. Thraſhing wheat 3s. 3d.—barley 2s.—oats 1s. 4d.—peas 2s. 4d. and beans 1s. 4d. per quarter. Head man's wages 12l. per annum, with board and lodging. Boys 6l. per annum with the ſame. Women ſervants wages 5l. per annum, with board, waſhing and lodging. Girls with the ſame, 2l. per annum.

soil.

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SHES.

	Tythes at & small		Poor's Rates.	
	Composition per £. Rent	Increase in 20 years.	Poor's Rates in £.	Increase in 10 years.
	s. d.	s. d.	s. d.	s. d.
N HILLS	- -	- -	3 0	
M				
D LA HOPE				
N ON THE HIL				
G	- -	- -	2 9	
EAST				
LBURY				
L	- -	- -	2 9	
HURROCK				
HURROCK	- -	- -	1 3	
URROCK				
T				
)				
	- -	- -	3 6	
TON				
ORNDON	- -	- -	5 0	1 0
	- -	- -	2 0	
	- -	- -	6 0	
D				
ALD				
ORLEY				
ORLEY	- -	- -	2 9	
ER	- -	- -	2 6	
KENDEN	- -	- -	3 6	
KENDEN	- -	- -	1 9	
TON	- -	- -	2 9	
M				
RCH				
)	- -	- -	1 6	

veen the ploughed,
rmation (as it was

DISTRICT THE TWELFTH.

Heavy mixed ſoil, upon a gravelly loam, a tile earth, and a blue and white chalky clay.

BEGINNING at TOPERSFIELD, where the ſoil in general is formed of a ſtrong heavy loam, with little or no admixture of gravel; and where the rivet or bearded wheat is moſt generally cultivated, and found beſt to anſwer. A ſimilar ſoil continues weſterly to STAMBOURN; here the land has been very much improved by hollow draining, and here alſo are ſome very flouriſhing aſh copſes, which have been very judiciouſly planted for the purpoſe of hop poles. From Stambourn weſterly to STEEPLE BUMPSTED, the ſoil varies from a gravelly to a thin cold loam upon a chalky clay.

This neighbourhood was very famous formerly for the manufacturing of cheeſe, but of late years the dairy buſineſs has generally given place to the ſuckling of calves for the London market, and for which purpoſe, a preference is decidedly given to the North Wales Cows.

South-weſterly from Steeple Bumpſted to HEMPTED, and thence ſouth-eaſterly to GREAT SAMPFORD, the ſoil in general conſiſts of a wet heavy clay, upon a brown and a cloſe chalky clay.

Even the higheſt parts of theſe lands require a conſtant and unremitting attention to hollow draining, which, at a pole apart, and made thirty inches deep, including materials, will coſt about 35s. per acre.

In the pariſh of RADWINTER, and adjoining the village, the ſoil conſiſts of a gravelly loam; but thence northerly towards Aſhden, and ſoutherly towards Wimbiſh, a thin cold ſoil upon a blue and white chalky clay, intermixed with veins of a ſtrong red clay or tile earth.

An experiment has lately been made by a very intelligent and liberal gentleman at Radwinter, in ſowing his clover leys with wheat, in the following manner:

Through the greater part of this diſtrict the land is uſually ploughed into four furrow ridges, as well for oats or barley, as for winter corn. The furrows between the ridges are left ſtrongly marked upon the clover ley, and in the preſent inſtance, are ſown or ſpringed with wheat: two furrows are then nicely ploughed, covering the wheat, and thus forming the top of a new four furrow ridge. The open or laſt made furrows are then ſown, and two furrows or ſlices are added to each ridge, leaving a ſmall comb or balk, which is alſo ſown and ſplit down with a double breaſted plough, caſting an equal quantity of mould to the right and left, thus finiſhing the ploughing operation and ſhutting the ridges completely up. The field is then cloſely rolled down with a roller, which is ſwelled out in the middle, and properly conſtructed to operate equally upon the higher and lower parts of the four furrow ridges.

From this management the wheat is ſuppoſed to derive an immediate advantage from the manure which laid upon the ſurface of the clover ley; and although the crops have been very luxuriant, and that the ſoil is of a looſe and hollow nature, the wheat has hitherto been exempt from the blight, nor is it but in a very ſlight degree liable to lodge or ſubject to be root fallen. It may be proper further to obſerve, that the ploughing ſhould be performed in the

moſt

moſt maſterly manner, of a uniform depth, and as fleet as poſſible, ſo as to plough the land perfectly clean.

The greater part of the adjoining pariſh of WIMBISH, is found to conſiſt of a wet heavy ſoil, upon a red tough, and a blue chalky clay.

The lower parts of the fields here are uniformly found to poſſeſs a more tractable ſoil than that of the upper parts; and here a material improvement, though at a conſiderable expence, is made by mixing the oppoſite ſoils of each field together, thus mutually correcting their natural defects by rlleeving the red loamy land from its tendency to bake and cruſt after heavy rains, or freſh ploughing, at the ſame time by rendering the ſtaple of the looſer ſoils more compact, the ſtraw becomes ſhortened; the quality of the grain and pulſe is very much improved, and the quantity is invariably increaſed per acre.

The moſt approved mode of hollow draining in this pariſh is to fill the drains with ſtraw only, buſhing the ends of the drains and the leaders to the outfals: the ſmaller drains are made twenty-ſix inches, the leaders thirty inches deep, which together, and at a rod apart, will coſt about two guineas per acre.

Horſe-hoes or ſkims, of various dimenſions, and equally applicable to ridge, or flat work, are found to anſwer particularly well for cleaning the fallows; which being generally ploughed in three feet ridges, the ſeed of wheat, beans, barley, and oats, is frequently put in by hand-barrows or drilling machines, ſowing every other furrow or otherwiſe at pleaſure, and coſting per acre.

An ingenious farmer in this pariſh has conſtructed, and fixed to the tail of his plough a drilling box, which moves in a direct line after the plough, and is acted upon by the wheel which ſupports it to diſcharge the ſeed, and this is

done with great regularity into the laſt made furrow, not in a cloſe narrow row (which by the bye is a very material defect in moſt drill machines) but ſcattered evenly in the bottom of the furrow and with as much ſafety as it is poſſible or neceſſary. This box by a kick with the foot, which ſtops the diſcharge of the ſeed, may be applied to cloſe or alternate drilling, or to any width of interval whatever. The whole contrivance is particularly light and ſimple, not eaſily to be put out of trim, and does much credit to the ingenuity of the inventor.

The ſoil of Debden, WIDDINGTON and CHICKNEY, is of a nature very ſimilar to the laſt deſcribed, and the ſame continues with little variation through CHAWRETH or BROXTED to TILTEY, where a well ſtapled ſtrong loam, upon a blue and white chalky clay, forms a ſoil that is very prolific in corn, but unfavourable to permanent paſture and to the culture of artificial graſſes.

LITTLE EASTON, TAKELEY, LITTLE and GREAT CANFIELD, preſent but little difference of ſoil or ſubſtrata from that deſcribed in the preceding pariſhes; and which indeed continues weſterly of the Roding River, and with little variation through the hamlet of Morrel Roding, and the pariſhes of AYTHORPE RODING, WHITE RODING, ABBOTS RODING, RODING BEAUCHAMP, MATCHING, LITTLE LAVER, HIGH LAVER and MAGDALEN LAVER to NORTH WEALD; where the land is found chiefly to conſiſt of a wet heavy ſoil, upon a chalky and a red tough clay.

The moſt judicious way of laying theſe lands dry, and improving them at the ſame time with their natural manure, is to open the partition ditches of the undrained and unimproved fields, eight feet wide, and from four to five feet deep, applying the chalky clay which is dug out of them to

the red loamy ſoil, and the red tough clay to the lighter coloured grey ſoil, in the proportion of about 4000 buſhels to the acre.

The outer drain being thus formed to give the beſt poſſible fall to the water, hollow drains are laid off through the field, at a rod apart from each other, and generally executed at the following expence per acre:

Opening the hollow drains by ploughing four furrows upon each, at 3d. per ſcore rods, every expence included	0	0	3
Digging one ſpit with the broad ſpade eight inches, and one ſpit with the land ditch ſpade, 14 inches, allowing two inches extra depths for the drains leading to the outfal, at 3s. per ſcore	0	3	0
Value of the ſtraw and expence of twiſting it into a rope, in which form it is put into the drains, 1s. 9d. per ſcore	0	1	9
	0	5	0

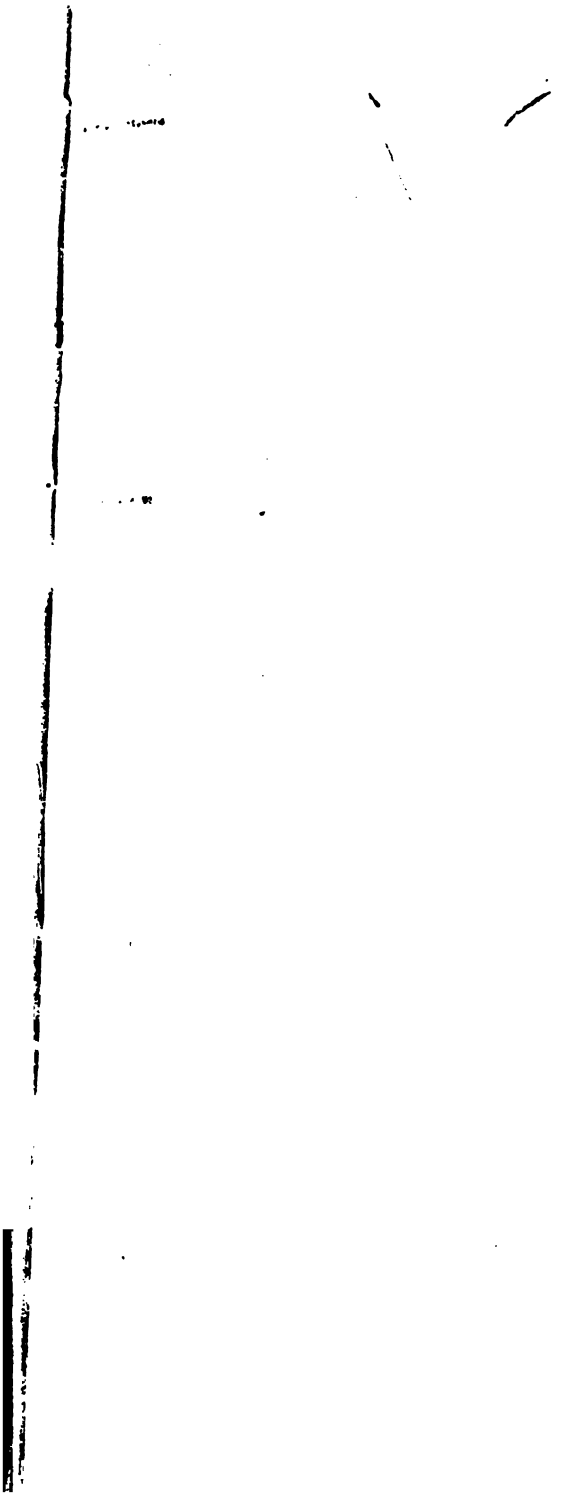
Eight ſcore of theſe drains to the acre, materials included, will coſt 40s. an expence that is generally and neceſſarily incurred upon moſt of the heavier lands in this neighbourhood. The expence of claying the land in the manner above recited, is difficult to aſcertain, as the whole is incurred (be it what it may) on a double account, including that of draining.

From North Weald, weſterly through MORETON, BOBBINGWORTH and SHELLY; and to the Eaſt of the Roding River, through FIFIELD, WILLINGALE SPAIN, WILLINGALE DOE, BERNERS RODING, GOOD EASTER, MARGARET RODING, LEADING RODING, HIGH EASTER, HIGH RODING, PLESHY, MASHBURY, LITTLE CHICKNAL, BROOMFIELD, GREAT CHICKNAL, and

ROXWELL, SHALLOW BOWELLS, and NORTON MANDEVILLE; the ſoil and ſubſtratum will admit of one general deſcription, agreeing principally with that of Chawreth or Broxted. A greater intermixture of ſoil of a more temperate nature, and better ſuited to the culture of the annual and perpetual graſſes is found to prevail through the pariſhes of BLACKMOOR and FRIERNING, and may generally be referred to the temperament of the ſixth diſtrict, and containing a larger proportion of graſs land than what is uſually found through this diſtrict; the moſt univerſal huſbandry of which is, to fallow the wheat ſtubbles for barley, and the barley ſtubbles for wheat. Upon about one-twentieth part of the barley land clover is ſown, 16lbs. to the acre; lies one ſummer and is ſucceeded with wheat upon once ploughing. The ſmall portion of manure afforded through this diſtrict is very induſtriouſly collected and applied upon the fallows for wheat or barley, and ſometimes (though but rarely) for beans. The reſult, according to the index table is

23 buſhels 1 peck of Wheat
3[illegible] buſhels 1 ditto of Barley
35 buſhels of Oats
17 buſhels 2 ditto of Peas
22 buſhels 2 ditto of Beans per acre

The average table alſo ſhews that the arable land through this diſtrict is 13s. 4d. per acre. That the paſture of the firſt quality are 20s. of the ſecond quality 13s. 9d. and of the moſt inferior quality 7s. 2d. per acre. That where the ploughed and graſs lands are let together, and without diſtinction of price, the farms average 13s. 10d. per acre. That the undergrowth of the woods is cut once in fourteen years, and that it ſells at the ſtub for 9l. per acre. That there are 300 acres of improveable waſte or common, which by incloſure, may be augmented in its annual value 15s. per acre. That the compoſition at this time paid for the great and ſmall



		e		Tythes great & small			Poor's Rates.	
	P		Beans.	Composition per acre.	Composition per £. Rent	Increase in 20 years.	Poor's Rates in £.	Increase in 10 years.
		lb.	bush.	s. d.	s. d.	s. d.	s. d.	s. d.
1	TOL	6	24	- -	4 0	- -	4 0	
2	STA							
3	STE	-	24	3 3	- -	- -	4 6	
4	HES		20	- -	4 0	- -	4 6	
5	GR		24	3 0	- -	- -	3 0	
6	RA		22	3 6	- -	- -	3 6	0 8
7	WI							
8	WI							
9	CH	-	- -	- -	- -	- -	4 0	
10	BR							
11	TIL							
12	LIT							
13	TA							
14	LIT							
15	GR	-	- -	- -	- -	- -	4 6	
16	AY							
17	WH	-	- -	3 6	- -	1 0	4 8	1 0
18	ABE	-	- -	- -	- -	- -	4 0	0 10
19	RO	-	- -	- -	- -	- -	4 0	
20	MA							
21	LIT	-	- -	2 6	- -	- -	3 6	
22	HIG							
23	MA	-	- -	- -	- -	- -	3 0	
24	NO							
25	MO							
26	BO	-	- -	- -	- -	- -	4 0	1 0
27	SH							
28	FIF	-	- -	- -	- -	- -	4 0	2 0
29	WI	-	- -	- -	- -	- -	4 0	2 0
30	WI	-	- -	2 9	- -	- -	2 0	
31	BE							
32	GO	-	- -	3 9	- -	- -	4 0	0 9
33	MA	-	- -	- -	4 6	- -	4 6	
34	LE	-	- -	2 9	- -	- -	4 0	0 9
35	HIG							
36	HIG	-	- -	- -	- -	- -	4 0	1 0
37	PL							
38	MA							
39	LIT							
40	BR							
41	GR	-	- -	3 0	- -	1 6	3 4	- - Pc
42	RO							
43	SH	-	- -	- -	4 0	- -	3 0	
44	NO	-	- -	3 0	- -	- -	4 0	
45	BL							
46	FR							

of value between the ploughed, tl

aterial information (as it was 1

2|22 3| 3 1|- -|1 3| 4 0|2 1½|To

ſmall tythes is 3s. 1d. and that the ſame has increaſed 1s. 3d. per acre within twenty years. And laſtly, that the poor's rates upon the preſent rack rents are 4s. and that they have increaſed 1s. 1¼d. in the pound within ten years.

The quantity of ſeed uſually ſown per acre, may be referred to diſtricts No. 5, 7, and 10; and ſuch other particulars as relate to the value of labour and price of proviſions, may be very well underſtood by referrence to diſtrict No. 1, and the next following.

DISTRICT

DISTRICT THE THIRTEENTH.

Being a temperate and heavy mixed ſoil, upon a chalk, a gravel, a hurrock (i. e. *a gravel and chalk mixed*) *a tile earth, and a blue and white chalky clay.*

BEGINNING at SAFFRON WALDEN, where the land eaſt of the town, and extending towards ASHDON, Radwinter and Wimbiſh, conſiſts of a wet heavy ſoil upon a chalky clay. Southerly towards Wenden and Debden, the ſoil is of a more open and gentle nature, and lies upon a chalky and a brown tender clay, interſperſed with ſome veins of gravel. Thence weſterly to LITTLE BURY and LITTLE CHESTERFORD, a thin dry ſoil upon a chalk and gravel, which continues northerly to GREAT CHESTERFORD; but thence north-eaſterly through Little Walden to HADSTOCK, the thin hurrocky ſoil is loſt in a ſtrong heavy clay upon a tile earth, and in a gravelly loam.

The low paſtures and meadows in this neighbourhood being ſubject to frequent overflowings from the river Cam, are reduced to a very inferior condition, which is only to be improved by ſome regulation requiring that river to be properly cleanſed out, and its bed deepened. The water might then be run down to a lower level, and the adjacent lands, by being relieved of their ſuperabundant water, would in a ſhort time become extremely valuable.

The long drift and ſcanty paſturage in this open part of the county occaſions a decided preference to the North and South

Wales cows; but in the event of a general enclosure,
is much wished for) this deficiency would be imme-
supplied by the culture of artificial grasses; and the
down of several well adapted spots into permanent
.

surface of the country through WENDEN LOFTS,
THALL, ELMDON, and CHISHALL, is
intermixed, as well in the open fields, as in the en-
s: consisting in part, of a thin dry soil upon a chalk,
ock, and a harsh burning gravel; together with a deep
mould upon a flinty or gravelly loam, and a tough wet
y upon a tile earth. The open field lands in the parishes
YDON, GREAT and LITTLE CHISHALL,
efly formed of a thin hurrocky soil upon a chalk and
The soil of the enclosures is found to improve from
heavy clay to a deep tender loam upon a brick earth.
parish of LANGLEY the soil becomes more uniform,
ill justly answer to one general description, which
of a strong wet loam upon a tough clay or tile earth.

n the nature of such a soil, very close hollow draining
en rendered indispensibly necessary. The drains are
at two and a half and three yards apart from each
are made twenty-six inches deep, and filled with wood
w, and at an expence of from 50s. to 3l. per acre.

want of proper materials for repairing these roads
n them to be almost impassable in winter. Stones
el are with difficulty obtained, and no where within the
onvenient distance for less than one penny per bushel;
nce, which to a certain degree, would be rendered
cessary, were the sides of the lanes, and the road
lowered, and a freer passage afforded to the discharge
vater, by opening the drains into the outfal ditches.

From Langley eaſtward towards ARKSDEN and WENDEN, the country is broken into hills, and contains much of the ſame variety of ſoil as was noticed upon the confines of Cambridgeſhire.

Through the pariſhes of NEWPORT, WICKHAM BONHUNT, RICKLING, QUENDON, UGLEY, HENHAM ON THE HILL, ELSENHAM, STANSTED MONTFITCHET, and BIRCHINGER, the ſoil is a good deal intermixed, and conſiſts of a loamy and a harſh gravel, and a mild grey loam of a good ſtaple upon a chalky clay, below which, are veins of ſtrong red clay or tile earth.

The lands of FARNHAM, MANUDEN, BERDEN, and CLAVERING, are found to conſiſt of an hazel coloured gravelly loam upon a gravel, a thin cloſe heavy ſoil upon a blue and white clay, and a thin dry hurrocky ſoil upon a chalk.

The rough and unimproved paſtures in this neighbourhood, ſeem in a great meaſure to owe their preſent inferiority to the very wet and compreſſed ſtate in which they have been lying for ages. Upon ſuch as have been hollow drained and kept open with the plough for a few years, and then laid down into paſture, improvements have been made that are truly aſtoniſhing. The general opinion upon this queſtion among the moſt attentive and intelligent farmers is this; that the paſture lands upon the wet cold tile earth bottoms, ought to be kept under the plough for about three years in twenty.

A light tender loam, upon a vein of gravel, is found to ſtretch ſoutherly from Hatfield Heath through High Laver to Morton and Bobbingworth, affording an excellent ſupply of materials for repairing the roads in thoſe pariſhes through which it extends.

HATFIELD

ATFIELD BROAD-OAK or Takely Foreſt, is about
alf covered with wood, amongſt which, with a great
of other very valuable timber, is an oak, that meaſures
feet from the ground, fourteen feet in circumference,
thought will cut to timber, at the height of ninety
rom the ground: one of its branches, near the top,
n its north weſt ſide, is a little ſtagged, but in every
reſpect the tree indicates ſound health and increaſing
nce.

e clear rich lands of Woodſide Green, and every other
of the foreſt, which is not uſefully employed in the
h of timber, might be materially improved, by en-
e for cultivation, or for the purpoſe of encouraging
rowth of oak and other valuable timber.

ceeding ſoutherly from Hatfield, Broad Oak, through
AT and LITTLE HALLINGBURY to SHEER-
, the ſoil in general becomes of a more temperate and
ble nature, affording in many places ſome very good
land.

ry little is to be noticed in this diſtrict on the article of
re, if we except only the light top dreſſings, which are
t an expence of from 30s. to 40s. per acre in the open
country, bordering upon Hertford and Cambridgeſhire.
oſe parts of the diſtrict, two crops and a fallow is the
routine of cropping that can generally be admitted; and
e encloſed country, the huſbandry may be referred to
ariety of modes practiced in, and particularized at the
f the firſt diſtrict; which, agreeably to the prefixed
table, yields an average produce of

20 buſhels 3 pecks of Wheat
26 buſhels 3 pecks of Barley
24 buſhels 1 peck of Oats
18 buſhels of Peas and
20 buſhels of Beans per acre.

hich table further ſhews, that the average rent of
loſed arable land is 12s. 5d. that of the open field

6s. 8d. a difference therefore of 5s. 9d. per acre between that which is held in ſeveralty and that which is half-yearly or Lammas ground. That the paſtures of the firſt quality are 20s. 7d. thoſe of the ſecond 12s. a conſequent difference of 8s. 7d. per acre between thoſe which are properly and thoſe that are only partially improved. That the graſs and arable land, when let together, and without diſtinction of price, averages 12s. and that the rough and inferior paſtures only average 6s. 7d. a difference there of 5s. 5d. per acre, ſuppoſing thoſe lands to be improved to the level of the farms which are thus diſpoſed of, but which in point of value and improvement are generally obſerved to be inferior to thoſe eſtates that are rented under a juſt diſcrimination of the quality and value of their different claſſes of land. That the undergrowth of the wood land is cut once in eleven years, and produces 8l. 15s. per acre at the ſtub. That there are 500 acres of foreſt land in the diſtrict, appropriated to the growth of oak and other valuable timber. That there are 1070 acres of waſte common land, which may by incloſure be improved in its annual value 12s. 5d. per acre. That the compoſition at preſent paid for the great and ſmall tythes is 3s. 4d. and that the ſame has riſen 11d. per acre within twenty years; and laſtly, that the poor's rates upon the preſent rack rents are 4s. 3d. and that they have riſen 1s. in the pound within the laſt ten years.

The value of labour, and price of proviſions, through this diſtrict may be ſtated as follows:

Beef 4½d.—Mutton 4½d.—Veal 5d.—Pork 5½d.—Pickled Pork 7½d.—Butter 10d. and cheeſe 6d. per lb.—Flour 1s. 11d. per peck—and potatoes 1s. 3d. per buſhel.—Stated daily labour in the winter 7s. and ſummer 9s. per week.—Thraſhing wheat 2s. 6d.—barley 1s. 4d.—oats 1s. 2d.—peas 2s. 2d.—and beans 1s. 2d. per quarter.—Head man's wages 8l. with board and lodging.—Boy's 40s. per ann. with the ſame—Women's wages 3l. 10s. with board, waſhing and lodging—Girls 1l. 10s. per ann. with the ſame.

DISTRICT

S ES.	Arable per acre.		Tythes great & small			Poor's Rates.		
	Enclosed.	Open Field.	Composition per acre.	Composition per £. Rent	Increase in 20 years.	Poor's Rates in £.	Increase in 10 years.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
. . . . .								
. . . . .								
. . . . .								
RIDGE . .	14 0	- -	- -	- -	- -	2 6		
. . . . .	13 0	- -						
. . . . .								
. . . . .	13 6	- -	3 0	- -	0 6	2 0	0 6	
. . . . .	- -	- -	- -	- -	- -	5 0		
MBRIDGE .								
. . . . .								
. . . . .	13 6	- -	3 0	- -	- -	4 0		
IBRIDGE .	15 0	- -	3 6	- -	0 6	3 0	1 2	
. . . . .								
. . . . .	15 0	- -	3 9	- -	1 0	3 6	- -	Coleseed 28 bush. Mustar
. . . . .	15 0	- -						
. . . . .								
ERING . .	16 0	- -	4 0	- -	- -	3 0		
ERING . .	16 0	- -	3 0	- -	- -	3 0		
BURY . . .	16 0	- -	- -	- -	- -	3 0		
BURY . . .	16 0	- -	3 0	- -	- -	3 0		
CH	17 0	- -	4 3	- -	2 2	2 6		
L								
. . . . .								
. . . . .	12 0	- -	3 0	- -	- -	2 6	1 0	

GENER*e between the ploughed, the woods, and the g*
annuall information (as it was possible to obtain,
convey

. . . . .	148¼	- -	3 4½	- -	1 0½	3 1	10½	Coleseed 28 bush. Musta
improved and	- -	- -						

DISTRICT THE FOURTEENTH.

nperate mixed ſoil, upon a gravelly loam, a yellow voodland clay, a brick, and a tile earth, and a halky clay.

EGINNING at HARLOW, where the land conſiſts n intermixture of ſoils, from a wet heavy tough clay upon e earth, to a light tender thin ſoil upon a gravel; between extremes, there are various ſhades of temperament fertility, the moſt eſteemed of which is that of a deep l coloured loam, upon a brown tender clay intermixed gravel. The tile earth in this neighbourhood is occa-lly uſed in the manufacturing of coarſe earthen pots.

utherly through LATTON, NETTSWELL, LIT-E and GREAT PARNDON, ROYDON, NASING o EPPING, a ſimilar character of ſoil, in which there large proportion of excellent paſture ground.

very choice breed of cows has lately been brought from nſhire into this neighbourhood by Mr. Conyers; they to poſſeſs almoſt every requiſite to form the moſt perfect e cow kind. Their excellencies are almoſt univerſal, extremely hardy, and requiring but little food, at the time are well adapted to the draft, the dairy, to gra- and to ſuckling; and ſo far as the trial has yet been of them, they promiſe to anſwer moſt particularly

The

The country through WALTHAM ABBEY, SEWARDSTOND, CHINGFORD, WOODFORD, WALTHAMSTOW, and LEYTON; bounded by Epping Foreſt on the eaſt, and the meadows which lie along the River Lea upon the weſt, conſiſts of a great variety of ſoil, the leading feature of which is that of a gravelly loam upon a brick and a tile earth, and upon ſome yellow clay.

The adjacent Foreſts of Epping and Henhault, are viewed as an intolerable nuiſance, and are equally regarded as ſuch, at CHIGWELL and at LOUGHTON, where the farmers uniformly declare, that the privilege of commonage is by no means equal to the one tenth part of the loſſes they conſtantly ſuſtain from the deer in breaking down their fences, treſpaſſing upon their fields, and deſtroying their crops either ripe or green. Againſt theſe depredators it is further alledged, that there are no fences, however laboriouſly contrived, expenſive, and formidable againſt other animals, that will in any wiſe avail: add to this, that the evil is continually increaſing from the annual increaſe in the ſtock of deer.

Theſe foreſts, ſo near the metropolis, are well known to be the nurſery and reſort of the moſt idle and profligate of men: here the under graduates in iniquity commence their career with deer ſtealing, and here the more finiſhed and hardened robber ſecrets himſelf from juſtice, or retires for a time with his plunder from his haunts in London, where his arreſt is certain whenever it is determined by the maſter robber, or the robber catcher, that the active and actual robber is to be *done*.

The country on the north weſt ſide of the Roding River, and comprehended within the pariſhes of THEYDON BOIS,

S, THEYDON MONT, THEYDON GERNON, APLEFORD TANEY, STAMFORD RIVERS, EENSTED, CHEPING ONGAR, and HIGH GAR, conſiſts of a variouſly compounded and mixed chiefly of a good ſtaple, of a tractable nature, and upon a gravelly loam, a brown and a white chalky

a large proportion of this country is laid into graſs or re ground, the dairy, with ſome ſuckling buſineſs, is generally purſued; but for either of theſe purpoſes does not appear to be that neceſſary choice or general rence to any particular breed of cows, which it ſhould that the ſoil, the herbage, and the peculiar appropria- of the milk, moſt eſſentially requires.

ie lands on both ſides of, and hanging towards the ng River, conſiſt of a deep rich gravelly loam, well ted to the culture of clover, forming excellent paſture very good corn land. Proceeding ſouth-eaſterly from Loding River, and extending thence through the pariſhes STONDON, KELVEDON HATCH, DOD- GHURST, NAVESTOCK, STAPLEFORD OT, LAMBOURN, and HAVERING BOWER, ich mellow ſoil is in a great meaſure loſt in a ſtrong upon a chalky, and a wet tough clay.

hollow draining a conſiderable improvement has been in theſe lands, a large proportion of which, are under and uſually depaſtured by dairy cows.

ie ſoil of the land in the neighbourhood of BARKING, ling the pariſhes of GREAT ILLFORD, WAN- D, LITTLE ILLFORD, EAST and WEST M, lies chiefly upon a brown tender clay and a gravel.

Theſe

Theſe lands being ſituate ſo very near to the metropolis, and ſo completely within the reach of the London muck, no concluſion applicable to the general improvemt of the country is to be drawn from their huſbandry or other management; particularly as a very large portion of this part of the county is occupied with gentlemens country reſidences, and otherwiſe employed under paſture, meadow, nurſery, and garden ground.

The mode of cropping through this diſtrict, is extremely various and irregular: it may be ſaid to include all thoſe changes enumerated in the practice of the preceding diſtricts, to which may alſo be added, that of ſowing clover in the ſpring of the year amongſt the wheat, at the ſame time and in the uſual quantities as with ſpring corn: the reaſon aſſigned for this practice is, that in a dry ſeaſon the clover is very apt to overpower the oats or barley, and on the other hand, when to prevent that evil, the clover is ſown late in the ſeaſon, it frequently miſſes plant, and the clover crop which is here of particular importance, is loſt for that ſeaſon. Finally, the reaſonable objection of two ſucceſſive crops of wheat, with only one intermediate crop, and that of clover, is not eſteemed of ſufficient conſideration to recommend the conſtant practice of ſowing, and always cultivating that ineſtimable graſs with ſpring corn.

By reference to the prefixed table, it will appear, that the average annual rent of the encloſed arable land is 18s. 4d. That of the open common held 15s. leaving a difference of 3s. 11d. per acre between the half yearly, arable and that which is held in ſeveralty. That the paſture land averages 27s. 3d. per acre. That the meadow land in ſeveralty upon the Roding River equals 29s. at the ſame time that the half yearly or Lammas land, much of which is of a ſuperior quality, and abutting upon the River Lea is only rented at 25s. a conſe-

quent

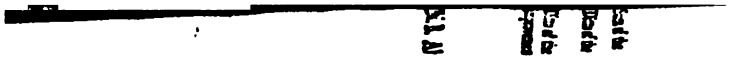
quent difference of 4s. per acre, againſt the annual rent or value of the ſuperior land. That number of acres of foreſt land, producing nothing but old pollard, oak, and horn-beam at this time, yielding on a very fair ſtatement 5s. 8d½. per acre, but were it encloſed for cultivation it might be readily diſpoſed of at 20s. an improvement may therefore be made in the annual value of that body of land, be its extent what it may, of 14s. 3½d. per acre. That there are 2203 of commons, which by encloſure, may be improved 18s. 2d. per acre. That the average produce of the crops of wheat are twenty-eight buſhels, of barley thirty-ſix buſhels, of oats forty buſhels, and of beans forty buſhels per acre. That the preſent commutation for the great and ſmall tythes is 3s. 4½d. and that the ſame has increaſed 11½d. per acre within twenty years: and laſtly, that the poor's rates, upon the preſent rack rents, are 3s. 9d. and that they have increaſed 1s. 6d. in the pound within the laſt ten years.

The average value of labour, ſervants wages, and price of proviſions, is found through this diſtrict, to be as follows:

Beef 4½d. per lb.—mutton 5½d. per lb.—veal 5½d. per lb.—freſh pork 6d. per lb.—pickled pork 8½d. per lb.—butter 11d. and cheeſe 6d. per lb.—houſhold flour 2s. 1d. per peck, and potatoes 1s. 8d. per buſhel. Stated daily labour 10s. per week in ſummer, in winter 1s. 6d. per day. Thraſhing wheat 2s. 11d.—barley 2s.—oats 1s. 5d.—peas 2s. 4d. and beans 1s. 4d. per quarter. For mown wheat 3s. 6d. per quarter, and 1s. per load for truſſing the ſtraw. When wheat is thraſhed by the truſs, the uſual price is 2d. when beans, oats, or barley 1½d. per truſs. Servants wages from men of ten guineas to boys of 4l. with board and lodging. Women ſervants from four guineas to 2l. per annum, board, waſhing and lodging included.

From the foregoing detail of ſuch circumſtances, as upon enquiry, where found, to exiſt in the ſeveral pariſhes where information was obtained, the following more general and enlarged table is formed, embracing in one view, and exemplifying in the ſhorteſt manner, the average amount or value of all the material intelligence, collected upon the ſurvey, as appertaining to agriculture, and to the means which the county at preſent poſſeſſes, for extending its cultivation and enlarging the ſcale of its improvement.

TABLE



mount of cert

Annual Produce per acre in bushels of						Labour t work hing of		Men Servants Wages.				Wom Serva Wag		
	Barley.	Oats.	Peas.	Beans.	Mustard	Peas per quarter.	Beans per quarter.	Head Men per ann.			Boys per ann.	Women per ann.		
p.	b. p.	b. p.	b. p.	b. p.	b.	d.	d.	l.	s.	d.	l. s. d.	l.	s.	d.
-	34 2	33 0	20 0	21 0	-	27	14	8	10	0	2 0 0	4	0	0
0	30 2	35 0	20 2	25 0	-	27	14	8	10	0	2 0 0	4	0	0
-	33 2	38 1	19 1	27 1	-	27	14	8	10	0	2 0 0	4	0	0
-	40 0	40 0	- -	32 0	-	27	14	8	10	0	2 0 0	4	0	0
-	32 1	38 3	- -	32 0	-	28	14	8	0	0	2 5 0	4	0	0
-	34 3	35 2	20 0	23 2	-	28	14	8	0	0	2 5 0	4	0	0
-	35 2	41 0	24 0	24 0	-	28	14½	10	13	0	3 0 0	4	13	0
-	34 3	40 2	23 0	27 2	24	28	14½	10	13	0	3 0 0	4	13	0
-	- -	40 0	- -	32 0	24	28	14½	10	13	0	3 0 0	4	13	0
-	32 0	32 2	- -	28 0	-									
-	34 0	34 3	20 0	24 0	-	28	16	12	0	0	5 0 0	5	0	0
-	32 1	35 0	17 2	22 3	-	28	16	12	0	0	5 0 0	5	0	0
-	26 3	24 1	18 0	20 0	-	26	14	8	0	0	2 0 0	3	10	0
-	36 0	40 0	- -	40 0	-	26	14	8	0	0	2 0 0	3	10	0
						28	16	10	10	0	4 0 0	4	4	0
p	0 33 3	36 2	20 1	27 0	24									
-	- -	- -	- -	- -	-	27¼	14¾	9	12	2	2 17 10	4	4	8

qually well employed, could

upon this important part of the fur

e ſubſtance of which table, it may here be proper to
pitulate, and is as follows, viz.

That the average rent of the encloſed arable land throughout
county is 14s. 8d. That of the open field 10s. 2d. conſe-
ntly a difference of 4s. 6d. per acre between the common
l land, and that which is held in ſeveralty. That the
rage rent of the prime paſture ground is 23s. 2d. making
fference of 9s. 1¼d. per acre between the paſture land of
firſt, and that of the ſecond quality. That the rough and
mproved paſtures are rented on an average through the
nty at 6s. 10d. per acre. That the embanked marſh
nd averages 15s. 7¼d. per acre; and that there are
o acres of ſalt marſh, which at this time, may be con-
iently encloſed from the ſea, and gradually improved to
equal value. That the meadows in ſeveralty average
10d. and thoſe that are half-yearly 25s. 8d. leaving a
rence of 2s. 10d. per acre, which is by no means propor-
ed to the ſuperior quality of the latter land. That the
le and graſs land through the county, when let in farms
ther, and without diſtinction of price, equals 14s. 6¼d.
acre. That acres of hop land average 31s. per
. That the undergrowth of the woodlands, cut once
hirteen years, averages through the county at the ſtub
11s. 6¼d. per acre. That there are 370 acres of thicks
foreſt land, which, by encloſure, may be improved
6d. per acre. That there are, ſay, 10,000 acres of the
e deſcription of land, not producing. or being favourable
e growth of oak or other valuable timber, in the foreſts
Epping and Henhault, at preſent eſtimated to produce
3¼d. per acre, but which, in a ſtate of encloſure for
vation, might be readily augmented to 20s. per acre:
finally, that there are 14,237 acres of waſte common
which being encloſed, would immediately be increaſed

in its annual value 11s. 4¼d. The ſame table exhibits the following general average produce through the county, viz.

Wheat	24 buſhels	2 pecks
Rye	20 buſhels	
Barley	33 buſhels	3 pecks
Oats	36 buſhels	2 pecks
Peas	20 buſhels	1 peck
Beans	27 buſhels	
Muſtard	24 buſhels	
Coleſeed	29 buſhels	
Potatoes	335 buſhels	

Coriander and Carraway ſeed 10 cwt. per acre.

It alſo ſhews that the compoſition at preſent paid for the great and ſmall tythes is 3s. 5½d. and that the ſame has increaſed through the county 1s. 1½d. per acre within twenty years. That the poor's rates upon the preſent rack rents are 3s. 6½d. and that they have increaſed through the county 1s. 1½d. in the pound within ten years.

That the price of proviſions and value of labour through the county, are laſtly, as follows:

Beef 4¾d. per lb.—mutton 5d. per lb.—veal 5½d. per lb.—freſh pork 5¼d. per lb.—pickled pork 7¾d. per lb.—butter 10¼d. and cheeſe 6d. per lb.—houſhold flour 2s. the peck, and potatoes 1s. 6¼d. per buſhel. Stated daily labour 9s. 5d. in the ſummer, 8s. 10d. per week in the winter. Taſk work, or value of labour in thraſhing wheat 30¼d.—barley 19¾d.—oats 14¾d.—peas 27¼d. and beans 14¼d. per quarter.—Houſe ſervants: head man's wages 9l. 12s. 2d. Boys 4l. 4s. 8d. per annum. Womens wages 4l. 4s. 8d. Girls 2l. 5s. per annum.

PART

| | | |

PART II.

CHAPTER THE FIRST.

Stock.

SECTION I.

COWS.

THE great variety of ſoil in this county, and the conſe-uent difference of herbage in a very ſmall ſpace, has oubtleſs contributed very largely to that intermixture of reeds among the ſheep and cow cattle, with which the rimeſt of the graſs lands through the county are generally epaſtured: but though this obſervation applies to the county t large, it does not extend locally, and through thoſe par-icular diſtricts, where the herbage, from time immemorial o the preſent period, has neither degenerated or improved, nd where, without queſtion, the paſtures employed for articular purpoſes, would favour the breed of one ſpecies f ſtock, rather than that of another.

That theſe matters have hitherto been too much diſregarded s plain, for in the richeſt and moſt luxuriant paſtures, are oo frequently found, an aſſemblage of the refuſe ſtock, and llings of the adjacent, the northern, and weſtern counties f the kingdom.

The

The ſtock of cow cattle in moſt parts of the kingdom (if we except the breeding counties) is chiefly appropriated to two purpoſes, viz. the dairy, and for grazing; in this county, a third may be added, that of ſuckling, or feeding calves for the London market. The rank which theſe different modes of appropriation holds in the eſtimation of the Eſſex farmer is, firſt, the dairy; ſecond, ſuckling, and third, grazing.

With regard to the firſt, ſo much depends upon the unwearied exertions of the miſtreſs, both early and late, that unleſs the farmer's wife is able and willing to encounter ſuch fatigue, little profit can accrue to the farmer therefrom.

In the country about Epping and Ongar, this buſineſs is carried on extenſively, but where in general there ſeems to be no particular choice or preference as to breed, or the ſtock of cows beſt ſuited to the purpoſe. The Norfolk, Suffolk, Derby, Lincoln, Leiceſter, Craven, Holderneſs, North and South Wales, and Galloway breeds, are indiſcriminately mixed together, and conſtitute the principal dairies throughout that neighbourhood.

In a few inſtances a preference was obſerved to be given to the Holderneſs, Leiceſter, and Derby, the milk of which cows (as well as that of the other dairies) after ſtanding twenty-four hours, is fleeted; and the ſkimmed milk is drawn off from the leads, into veſſels (not lined with lead but) of an increaſed depth; this is called doubling: here it remains for twelve or twenty-four hours, during which time, as the cream riſes, it is fleeted two or three times. It is then threbled or put into tubs, or ſtill deeper veſſels, where it is occaſionally ſkimmed and kept ſo long as any appearance of cream or richer milk is found to form upon the ſurface. The butter which is made from the after-fleetings of the milk,

of a paler colour, and of an inferior quality to that made
om the cream, which riſes the firſt twenty-four hours: it
generally churned apart, and ſold at a lower price.

The ſkimmed milk is uſually applied to the purpoſes of
eding porkers, or ſmall pigs, for the London market;
eſe are always kept very clean, and warmly lodged, par-
ularly in winter, during which ſeaſon, as well as in the
mmer months, the milk is always ſour before it reaches
e troughs, but on that account there does not appear to
the leaſt poſſible objection; as the pigs are always found
thrive extremely well, and their fat, from repeated trials
compariſon, is firmer, and vaſtly ſuperior to that of hogs
ttened upon peas or meal.

To account for this, however paradoxical it may at firſt
pear, and certainly againſt the more generally received
inion, is by no means difficult; nor will it ſeem at all ex-
ordinary or ſtrange, when it is conſidered, that the milk
th which the pigs are fed, contains all the rich gluten,
that component part which would conſtitute cheeſe;
d no one (it is preſumed) will deny, the nutritive qualities
that important article, in the liſt of thoſe neceſſaries,
hich compoſe one of the principal in the ſupport of
man life.

About two acres of the prime paſtures are uſually allowed
r the conſumption of a milch cow, which at 23s. per acre
greeably to the general average table) is 46s. to this,
thes may be added 3s. 6d. per acre; and poor's and other
riſh rates 4s. in the pound. A loſs of 50s. is generally
ſtained upon the ſale of the old cows, and an allowance
ten per cent. upon the years produce, ought in reaſon to
made for riſk, accidents of ſlipping calf, cow doctor,
&c. The account will then ſtand upon a dairy of
nty cows as follows: *The*

The Dairy	*Dr.*			*Per contra it is*	*Cr.*		
The intereſt upon the coſt of 20 cows, at 10l. each, 200l. at 5l. per cent. per ann.	10	0	0	By 6lbs. of butter a week per cow for 26 weeks 156			
To ditto upon the firſt coſt of a bull 10l. at 5 per cent. - -	0	10	0	By 4lb. ditto, for 14 ditto - - 56			
To 40 acres of paſture land at 23l. per acre	46	0	0	212			
Tythe upon ditto 3s. 6d. per acre - -	7	0	0	which applied to 20 cows, equals 4240 lbs. 11d. per lb.	194	6	8
Poors and other pariſh rates at 4s. in the pound rent - -	9	4	0	By the net profit upon 8 pigs per month, for 6 months, 48 pigs, at 14s. each	33	12	0
Annual reduction in the value of the cows from the time they are purchaſed till ſold out or dried to be fattened, ſay 7 years, at 7s. 6d. per cow - - - - -	7	10	0	By ditto upon 4 pigs per month, for 4 months, 16 pigs, at 14s. each - -	11	4	0
Dairy maid's wages	5	0	0	By 20 calves at 25s. each - -	25	0	0
Labour incidental to the buſineſs of the dairy, including hay-making, foddering, and all other attendance - - - -	25	0	0				
Fuel - - - - -	15	0	0				
Intereſt accruing upon the firſt coſt and wear and tear of the dairy utenſils -	4	10	0				
Allowance of 10 per cent. upon the amount of the year's produce for accidents, loſs of calves, cow-doctor, &c.	26	8	0				
	156	2	0				
Balance in favour of the dairy - -	108	0	8				
	£. 264	2	8		£. 264	2	8

which leaves a clear profit of about 5l. 8s. ½d. upon each cow.

This much however is to be obſerved, that the calculation ſtands upon a ſuppoſition, and according to the generality of cows throughout the neighbourhood; that the dairy in queſtion is of the moſt uniform and prime quality, and that it is alſo under the moſt ſkilful and attentive management.

Where almoſt every breed of cows in the kingdom compoſe the dairy, and where a leſs attention is paid to the feeding and management of them, the farmers are extremely unwilling to allow that the average produce of their cows in butter exceeds 4 lbs. per week during the forty weeks they are in milk, or 160 lbs. per annum for each cow. To this diminution of profit in the article of butter, from the ſmaller quantity of milk, is further to be added a loſs that is neceſſarily ſuſtained in the feeding of a leſs number of pigs, and which upon the whole will be found to reduce the net profit to about 3l. per cow; but even on this view of the ſubject, and which is ſurely conſidering it at the very loweſt ebb, the dairy buſineſs will prove far more beneficial than that of the common mode of ſuckling, a truth clearly illuſtrated by the following example.

A ſuckling herd of 20 cows	*Dr.*		
To annual intereſt accruing upon the firſt coſt of 20 cows at 9l. per cow, 180l. at 5 per cent. - -	9	0	0
To ditto on the firſt coſt of a bull 9l. at 5 per cent. - -	0	9	0
To 40 acres of paſture land at 20s. per acre	40	0	0
Tythe upon ditto 3s. 6d. per acre - -	7	0	0
To poor's and other pariſh rates, at 4s. in the pound rent -	8	0	0
Annual reduction in the value of the cows from the time that they are bought in till they are ſold or dried for fattening, ſay 7 years, at 6s. per cow - -	6	0	0
Thirty calves bought in at 25s. -	37	10	0
Market charges upon 50 calves at 2s. 6d. per calf - -	6	10	0
Labour incidental to the herd, including haymaking, fodderdering, and all other neceſſary attendance per ann. - -	20	0	0
To allowance of 10 per cent. upon 187l. 10s. the groſs produce of the year for accidents, cow-doctor, &c. - -	18	15	0
	153	4	0
Balance in favour of the herd - -	34	6	0
	£. 187	10	0

ich is equal to a clear profit of about 11. 14s. 3d. upon
n cow.

This however, is by no means proportioned to what the
fit would be, if the cows, uſed for this purpoſe, were
proper and uniform breed.

In ſupport of this aſſertion, it is particularly convenient in
place, to recur to the management of a gentleman in
neighbourhood of Epping, whoſe attention to this, and
every other branch of rural economics, is as highly
erving the emulation of, as it is truly beneficial to, the
rounding country.

In addition to other regulations and improvements, Mr.
nyers (as was noticed in the Journal) has lately introduced
reed of cows, from Devonſhire, which ſeem to unite all
requiſites for the dairy, the draft, for ſuckling, and for
zing. Their milk is confeſſedly richer, and in every
pect ſuperior to that of the Holderneſs, Leiceſter, or
rby; though from the ſize of the animal, it muſt neceſ-
ly follow, that the quantity muſt be leſs; and which,
compariſon with the Holderneſs cow, is allowed to be,
one fourth part, though greatly ſuperior in its quality.
e acre and an half of the prime paſture lands in the
nty, is allowed to be equal to the full, and complete
intenance of one of theſe cows for a twelvemonth; in
courſe of which time, every two cows will fatten five
ves. The firſt coſt of theſe cows, expence of driving,
every thing included, is 7l. 10s. per head. The
kling account then, of a herd, conſiſting of twenty cows,
ll, upon the preceding principles, and the moſt clearly
bliſhed data, ſtand thus:

A suckling herd of 20 cows, of the Devonshire breed,	*Dr.*		
To interest annually accruing upon the first cost of 20 cows at 7l. 10s. per cow, at 150l. at 5 per cent. - -	7	10	0
To ditto upon the first cost of a bull, 7l. 10s. at 5 per cent. -	0	7	6
To 30 acres of prime pasture land, at 23s. per acre -	34	15	0
Tythes upon ditto 3s. 6d. per acre -	5	5	0
To poor's and other parish rates at 4s. in the pound rent	6	19	0
To 30 calves bought in at 1l. 2s. 4d. each	33	10	0
To labour incidental to the herd, including haymaking, foddering, and all other necessary attendance at 18l. per ann.	18	0	0
To market charges upon 50 calves at 2s. 6d. each - -	6	10	0
To allowance of 10 per cent. upon the gross produce of the year, 196l. 5s. - -	19	12	6
	132	9	0
Balance in favour of the herd - -	63	16	0
£.	196	5	0

ich is equal to about 3l. 3s. 9½d. net profit annually per
v; and although there is evidently a want of coincidence
ween this and the preceding account, in the price of the
n, and alſo of the fat calves, ſtill that ſtatement is expreſsly
rect, being derived (with much other of the moſt ma-
al information) from the books of Mr. Conyers, Mr.
ith, of Sutton, the Reverend Mr. Abdy, and other
ntlemen, to whom much is due from the public, for
ir candid communications, and individually from myſelf,
their politeneſs and hoſpitality.

n this laſt ſtatement, it may be objected, that no diſcount
llowed againſt the cows for their decreaſing value. This
nſwered by long experience in their native country (and
ry important fact it is) that when from age or accident,
s breed is no longer proper for the purpoſes of milk, their
dineſs and peculiar conformation enable them to retain
the purpoſes of grazing, all the condition and value
their firſt coſt, as hazardable heifers.

A decided ſuperiority therefore attaches upon this breed
cows, not only for the dairy and ſuckling but in
ir diſpoſition, to keep in good order during the term of
ir milk, and in their great aptitude to feed, or to fatten
rwards: thus uniting at once, all thoſe qualities, which
ſuppoſed to exiſt individually in other breeds, and thus
one ſpecies, concentrating all thoſe excellencies ſo long
ſo earneſtly ſought for, in the moſt perfect of theſe
mals: ſuch, for a ſhort inſtance, as the Wales cows
ng much better with a leſs quantity and inferior quality
food, than the Derby or Leiceſter; their thin blue
k being more applicable to the purpoſes of ſuckling,
n the richer milk of the Derby and Leiceſter; the ad-
ages of the latter for grazing over the Wales breed in
caſes.

caſes of accidental loſs of milk, or when old and unfit for the dairy, with many other requiſites and objections, partly founded in ſpeculation, and partly founded in fact; all conſpire to be admirably qualified in the native cow of a particular diſtrict in Devonſhire.

In ſpeaking thus pointedly of this breed of cows, it may not be improper, to ſtate more particularly, and at large, the leading qualities, and characteriſtics of the animal.

It has before been obſerved that they are naturally hardy, and will preſerve themſelves in good condition, whilſt giving milk, upon an inferior herbage: it may alſo be inferred from the firſt coſt of the heifers, that this breed are not ſo heavy as to poach, to the injury of the wet paſtures; nor on the other hand, are they ſo light and confined in their frame, as not to pay extremely well for grazing upon the richeſt lands. They are particularly quiet in paſture, docile, and patent of controul: in their own country the ſteers are very generally applied to the draught, being remarkably active, and four of them well trained in a plough, will do an acre of land in the ſame time that it would be ploughed with three horſes. In both caſes a driver is found neceſſary. During the ſummer ſeaſon, the day's work ſhould be divided (as is the practice in Devonſhire) into two journies of four and a half or five hours each, and the ſteers ſhould be baited in the middle of the day upon green food, mown and carried to them, or with chopped hay in the ſtable. The ſteers ſhould be broken to the yoke, and receive their firſt training at two years old: they ſhould be worked very gently for a twelvemonth, after which time they will become ſo far ſeaſoned, as to bear conſtant and regular work, which with due care, they may be put to, till they are ſix years old. At this age they are generally ſold, or grazed by the farmer at home, weighing upon an average, when completely fat, about

ut thirteen ſcore per quarter; and the cows, when fat, at
n years old, will weigh about eight ſcore per quarter.

The moſt diſtinguiſhing features of this breed are, a fine
ite horn (not chalky) ſtreaked with red: the eye, full,
nd, bright, lively, and clear; the external circle of the
il, tinged with a deep yellow; around the eye is a gold
oured circle, which colour, in all caſes, will be found to
vail on the inſide ſkin of the ears; the chop mealy; the
ntenance chearful, and equally free from any thing of a
ck caſt, or the ſmalleſt ſpot of white; the permanent
our of the breed, is a bright blood red; the points on
back, and hind quarters, equal to the moſt highly finiſhed
the improved Bakewell breed; and the ſhoulder leſs
ighty, but with more roundneſs and beauty than is ge-
ally to be ſeen: flat clear head, and jaw free from gum,
l throat free from dewlap.

An attention to all theſe matters are indiſpenſible in the
chaſe or breeding of theſe animals, particularly in the
ice of, or in the perfections of the bull.

The accidents and diſeaſes, to which all cows are liable,
ſo well known, that it may not be neceſſary to ſtate any
ng further than a few ſuggeſtions, applying to thoſe caſes
ich are but too frequent, and fatally experienced in this
nty. Bleeding when the cows are from one-third to half
e with calf, is earneſtly recommended as a preventive
inſt premature calving, and when the accident does happen,
bury the abortion immediately, and to keep the cow as
dely apart as poſſible from the herd. To be particularly
eful that ſhe does not receive the bull, which herds with the
er cows, at leaſt not till after ſuch a lapſe of time, as
h good reaſon ſhe may be thought completely recovered,
free from the poſſibility of communicating the ſmalleſt
infection.

infection. For the diſeaſe called the red-water, bleeding, and change of food in many parts of the county, particularly in the iſlands, and upon the embanked marſhes, have been found effectually to anſwer. When the teat cracks, and the bag becomes indurated and inflamed, it is often the conſequence of high feeding, and theſe are the uniform indications of approaching garget in the dug; in this caſe the cow ſhould be immediately blooded, her bag ſhould be well waſhed, and anointed with hogs lard or ſweet oil. The teats ſhould be dreſſed with gooſe greeſe, and the cow kept as cool and quiet as poſſible. In a few days the bag will become ſoft, the inflammation ſubſide, and the milk gradually return to its uſual purity and colour.

SECTION II.

SHEEP.

AS there are but few breeding flocks in this county, the uſual mode of ſtocking with ſheep, is to buy ewes in the months of Auguſt or September, to entice thoſe that have not already taken the ram, to be ſo diſpoſed as early as poſſible, that the lamb may be returned fat in the ſpring, and the ewe fattened and ſold off before the end of ſummer.

For this purpoſe, the ſheep generally preferred, may be divided into two claſſes; the Dorſet, which begin lambing about the beginning of October, and whoſe lambs are uſually returned fat by the Eaſter following; coſt about 25s. each.

and are calculated to pay very well if they return 3l.
oupie (lamb wool and fat ewe included) by harveſt.
other claſs is a medly of Norfolk, Welſh, Harford,
hire, the lambs of which, are falling from the middle
ecember till the beginning of February, and ſometimes
andlemas. Theſe generally coſt from 15s. to a guinea
e, and are alſo allowed to pay very well, taking lamb
ool equally into the account, if they turn over (*i. e.*
e their firſt coſt) in time for the land to receive its new
of ſheep in the autumn. The reaſons generally aſ-
for preferring any of theſe latter claſs individually,
hat the Welſh are good nurſes, and feed excellent
. That the Hartford and Wiltſhire ſtand well out of
rt, are hardy, and will do well upon a coarſe and ſour
ge; or that the Norfolk are good turnip ſheep, always
g quick, and paying well after the lamb is fattened.

e experiment ſtated in the Journal to have been made
chingfield, upon a Norfolk and Southdown ewe, il-
es in ſome degree, the peculiar excellencies and defects
ſe breeds; and it is only to be regretted, that the trial
ot made upon a larger ſcale, and in ſuch a manner,
aſcertain with a ſtill greater certainty the abſolute
ſic value and characteriſtic qualities of either ani-
enough however is eſtabliſhed from the experiment
ve, that barring the firſt coſt of the Southdown ewe,
nqueſtionably proved to be the better ſheep. On the
of the firſt coſt of theſe ſheep an objection may be very
ſtated as to their general uſe; but when the South-
ſhall be more generally bred and increaſed through the
y, in that proportion will the preſent objection be
away; and though they may continue in equal eſtima-
hey will nevertheleſs by their being more generally

diffuſed and increaſed through the country, be brought to a more equal level, in point of price with the Norfolk, Welſh, and all thoſe breeds ſo juſtly held in requiſition for the fineneſs of their wool, and the ſuperior excellence in the flavour of their mutton.

The leading and characteriſtic qualities of the high, and and full bred Norfolk and Southdown ſheep, appear upon compariſon to be nearly theſe: the wool of both is found to be of the firſt cloathing quality, but the larger quantity is produced from the Southdown. The mutton of both is equally delicious. But the quiet and gentle Southdown in paſture, muſt be oppoſed to the wild impatient ramblings of the Norfolk, whoſe conſtant exerciſe not only excites continual appetite, but at the ſame time occaſions conſiderable waſte in the paſture, by treading down and unneceſſarily ſpoiling a great deal of what they do not eat. For this extraordinary exertion on the part of the Norfolk ſheep, in thus (as it were) wantonly deſtroying a large portion of food that is prepared for its ſubſiſtence; there does not appear from the experiment abovenoticed, to be the ſmalleſt occaſion, at leaſt to put it on an equal footing with the Southdown in that particular; for it is evidently demonſtrated by that experiment, that in an equally ſized ſheep, the heavieſt, and moſt capacious ſtomach, and conſequently requiring the greateſt quantity of food, is found to appertain to the Norfolk ſheep. The hardineſs of the Southdown, enduring wet and cold lodging, and a greater degree of abſtinence and fatigue than the Norfolk in the fold, is a ſuperiority of much moment; and only to be equalled by another, which they poſſeſs in a very ſuperior degree, which is that of doing well upon coarſe ſour paſtures. Theſe are fairly to be contraſted with the delicate conſtitution, and the tender aromatic herbage,

required

ired by the Norfolk; add to all which, the Southdown
equally good turnip ſheep, and for every poſſible pur-
, whether for its fleſh, for its wool, for breeding, for
ng, or for the butcher, they demand a leſs ſupply of
, and of an inferior quality, to that which in every
tion ſeems indiſpenſible to the well-doing of the
folk.

he croſſes which have been made between the Norfolk
Welſh ſheep by the Southdown ram, are by ſome far-
eſteemed highly advantageous; by others they are
iſed as mongrel, deſtitute of all the excellencies, but
ning moſt of the defects, which individually appertained
e ſtock from which they were produced. This contra-
of opinion, and that amongſt gentlemen equally re-
table for their veracity and judgment, embarraſſes and
ures the queſtion ſo much, that nothing ſhort of a
lar ſeries of experiments, accurately attended to, and
ducted upon an extended ſcale, can ever elucidate the
n, and prove the neceſſity of a preference either on one
or the other.

rom the excellent ſtate of the highland drainage through
county, there are but few ſpots in it which are liable
ommunicate the rot to ſheep. In the progreſs of the
, but one inſtance deſerving notice occurred, and that
in the neighbourhood of Eaſt Horndon, upon the com-
s called Bulvan, and Orſet Fen. Theſe commons it is
remarked are particularly ſubject to inundation winter
ummer; but the diſeaſe is obſerved to be more prevalent
fatal after light and partial overflowings in the ſummer,
after the more frequent and extended inundations at
ſeaſons. The other diſeaſes and accidents to which

this valuable animal is liable, are not ſo ſeriouſly experienced in this county as in many other parts of the kingdom. The foot rot, and ſcab, which produce conſiderable inconveniencies in other places, are but ſlightly felt even among ſheep produced from the ſtock of the Lincoln and Leiceſter breeds, and which are found moſt generally to depaſture in the iſlands and upon the marſhes, which have been embanked from the ſea.

SECTION III.

HORSES.

A Deſcription of the particular breeds of horſes, choſen and required in this county for the purpoſes of agriculture, does not ſeem to apply ſo materially to the purpoſe of this enquiry, as the expence attending their maintenance, the general mode of feeding, and the working management of them.

The practice of cultivating green food, and ſoiling the horſes in the yard or ſtable, during the ſummer ſeaſon, is now become very general through the county; and the daily accumulation of dung by this means, together with the ſuperior health and hardineſs which is induced in the plough horſes, by their lodging in the ſtraw yard, rather than in the ſtable, through the winter, is a ſufficient inducement with the

moſt able and experienced farmers to continue both prac-
, and to juſtify their general recommendation of them
ughout the kingdom.

he allowance of oats during the winter ſeaſon, and
ſt the horſes are fed upon what is called dry meat, is
buſhels a horſe per week. In the ſummer, and when
d upon green food, about half that quantity. The road
s are neceſſarily fed at a greater expence than the plough
s, as well in the article of hay, as in that of corn;
allowance of the latter, to both increaſing, as the
c preſſes, or in proportion as their exertions may re-
e.

n this view, the expence of feeding the farm horſes
ugh this county, is really enormous, and can only be
ned by the introduction of ſome equally nouriſhing
itute, lying equally within the farmer's reach, to be pro-
d as readily, and at a leſs expence. The journal moſt
ly diſplays that ſubſtitute in potatoes, and to Mr.
raham, of Avely, upon that ſubject are the public much
bted, for his very important and candid communication.

o reduce the conſumption of the preſent coſtly horſe
, by the general adoption of Mr. Tabraham's practice,
re under a ſimilarity of circumſtances, the ſoil would
lly well allow of the culture of potatoes, muſt prove
he higheſt public, as well as private importance, as
by a ſtill more valuable appropriation would be given
large proportion of the ſurface territory of the kingdom,
employed in the culture of horſe food: thus contri-
ng in a very great degree to the augmentation of our
nal reſources, and thereby ſuperceding the neceſſity of
importing

importing into this country, that immenſe quantity of oats, hitherto annually ſupplied from the northern parts of Europe.

Upon the light and temperate lands, two horſes in the wheel or common foot plough are uſually employed, and theſe are managed with much dexterity by one perſon, who holds the plough, and drives the horſes to a very equal labour at the ſame time. Upon the ſtronger land, three and ſometimes four horſes are required to a plough; theſe as neceſſarily require a driver, and here in like manner with the two-horſe plough teams is the day's work at plough, and at harrow, done in one journey of ſeven and a half or eight hours. To plough an acre, or at moſt five roods, is the common day's work. This is the general mode of working the farm horſes, but which (under the peculiar circumſtances of this county) is not to be applauded or approved of by any means. In open countries, where the work lies detached, and often at the diſtance of two, or even three miles from the farm houſe, the rounding of the day's work into one journey, particularly in the winter ſeaſon, ſeems to be a practice indiſpenſibly neceſſary: but in a country like Eſſex, where the farms lie compact, yet moderately large; and where the farm-houſes in general are tolerable centrical, and conveniently ſituated; it cannot ſurely admit of an excuſe for the ploughmen in the middle of their journey, to halt to breakfaſt upon the headland (perhaps at the back of the ſtable, or contiguous to the farm yard) the horſes all the while ſhivering with cold, getting ſtiff and diſeaſed from neglect, and the conſequences attendant upon their morning's labour, whilſt the ploughmen are idly conſuming the time, which cuſtom has ſanctioned to complete their day's work in one journey. By dividing the labour of the day, and baiting between two journies of four and a half hours,

five hours each, a greater time would be allowed for performance of more labour, which in this manner, uld be done with far greater eaſe, to both men and ſes, and particularly with much leſs exhauſtion and ry to the latter.

SECTION IV.

SWINE.

HERE is no animal in the whole economy of good bandry that requires more attention as to breed, number, ſupply of food, or will better requite the care and ble of the farmer, than a well-managed and proper ſtock hogs. Theſe things however are too much overlooked, rather diſregarded by farmers in general, though all are ly to agree that an over-ſtock in other reſpects muſt ever ve fatal to the intereſts of the farmer. Hogs are too uently conceived to be a trifling and unimportant part of ſtock of a farm; whereas if their firſt coſt, and the value their food, were duly conſidered, with their improving e, it would certainly bear them out againſt ſome of the e coſtly animals, and challenge more attention and care n what is uſually beſtowed upon them. A due regard he breed which the peculiar circumſtances of the farm may for, is particularly neceſſary, as ſome breeds are much r ſuited to depaſture, and feed upon graſs and herbs only, others. The moſt hardy and beſt qualified to prog

for themſelves, are the Chineſe; a croſs with which breed upon almoſt any other, may under moſt circumſtances, be prudently recommended; let the breed be what it may, a well proportioned ſtock to every farm will moſt abundantly requite the care, and repay the expence of the neceſſary food, provided for them. A few acres of clover would be well applied to the uſe of the hogs in the ſummer; but in the ſtye it would be well to reſtrain them to a certain quantity of water; and to lodge them clean and dry, notwithſtanding the wilful neglect and too prevailing opinion to the contrary; for cleanlineſs and avidity are as eſſential to the preſervation of their health and well doing, as to that of any other animal.

CHAPTER

CHAPTER THE SECOND.

Arable.

SECTION I.

MPLEMENTS OF HUSBANDRY.

we except the drilling apparatus, annexed to the com- plough, at Wimbiſh, the caſt iron draining wheel, ed in the Journal, at Finchingfield, and the improved of the breaſt plate (or what is generally termed the ld board, in moſt ploughs) we ſhall find that the inſtru- s generally uſed in the huſbandry of this county, afford few examples of ſingular utility. The fore end or neb he plate in the Norfolk, and moſt other ploughs, (the herham excepted,) riſes from the upper ſurface of the too perpendicularly, and too much at right angles to line of friction, or preſſure of earth the plate has con- ly to act againſt; working thus abrubtly in the ground, ſlice or furrow is violently torn, or burſt from off the broken and imperfectly turned over, inſtead of being ually cut, raiſed whole, and whelmed over, as will ys be the caſe, when the plough enters the ground quely, and at a proper angle, and that the plate or mould is properly turned for raiſing up, and turning the ſlice letely over.

In the operation of working wheel-ploughs with improperly turned plates or mould boards, it will frequently happen from the reſiſtance produced againſt the plough by ſtones, the tenacity or compreſſion of the earth, that they are obliged to be let down below the correſponding line of level, ſo materially neceſſary to the equal bearing between the pitch of the plough, and to the inclination which is thus given to the point of the ſhear downwards, and which ought always to be, or at leaſt as nearly as poſſible to a line, drawn parrallel to that of the draft, and with the breaſt work, which forms the fulcrum from the beam to reſt upon. When a plough is ſo conſtructed, and ſet to work, that it bears unequally in theſe points, the end of the ſhear will be rooting or dragging with its point downwards, kicking up, and ſideways at the heel, and rendering it utterly impoſſible to plough the ground clean, or in any wiſe to lay the work uniform, or even in a tolerable manner; notwithſtanding an exceſſive and unneceſſary degree of labour is thereby produced to the ploughman and horſes. Where the wheel ploughs are properly conſtructed, they are without queſtion eaſier to hold, and will cut the ground more evenly, and work at a more uniform depth than the foot-ploughs; at the ſame time, it muſt be confeſſed, that in any given ſoil, they will require a greater power to work them than the latter: the beſt conſtructed, of which and thoſe with the completeſt and beſt graduated rack work at the end of the beam, are thoſe commonly uſed in the Iſland of Merſea, in that neighbourhood and quarter of the county.

SECTION

SECTION II.

HOLLOW-DRAINING.

HERE is no improvement to which the heavy land
andry of this county owes ſo much as to the fortunate
duction, and continuance of the practice of hollow-
ning. The means of melioration, and the conſequent
ces of fertility, thence derived from the ſoil, over and
e what it formerly yielded, are not more important and
able in the preſent day, than permanent and precious, as
muſt prove in their conſequences hereafter. The few
nces of invincible blindneſs to the beneficial effects of
excellent practice, go no further than to prove, that
re the work is not properly executed, it never ceaſes to
n producing the deſired effect.

o complete an improvement of this nature, much is
ſſary to be attended to. If the field propoſed to be
ned lies greatly upon the deſcent, every care ſhould be
n to make the drains bear ſufficiently horizontally, in
irſt place to prevent a too precipitant fall of the water,
hich the bottoms of the drains would be worn uneven,
a temporary obſtruction occaſion them to blow; and
ndly, becauſe the more perfectly horizontal is the field,
at it lies level free, and affords a ſufficient fall for the
r, the leſs occaſion will there be for the ſame number
rains as would be required upon a ſoil of equal cloſe-
upon the ſide of a hill: The drains in the field that lies
ly level, drawing equally well upon each ſide; whereas
on the hang of a hill, drawing only from the higher

ſides of the drains, and conſequently requiring them to be made much nearer or cloſer together.

The ſtratum alſo through which the drains are to be made, is a point deſerving very particular attention; for when it is ſuch as forms a very cloſe and retenſive clay, the drains ſhould be made proportionably near to each other, ſhallow, and filled with ſtraw only; it being totally unneceſſary to uſe wood, or any more durable material upon land, where the ſides of the drains are not likely to crumble in; upon a ſoil like this, the drains ſhould ſeldom exceed the diſtance of three or four yards apart, and twenty inches deep, or ſuch a depth as may be the moſt conveniently obtained, by firſt opening the drains with the plough, ſhovelling the bottom of the loweſt furrow, and then digging one ſpit only with the land ditch ſpade; and which, materials included, will coſt about 2s. 6d. per ſcore rods.

Drains formed in this manner, through the tough and retentive clays, will be found in a ſhort time after the work is finiſhed, to have formed over the ſtraw with which the drain was filled, an arch of ſufficient ſtrength to ſupport the incumbent weight of the ſoil, and the caſual traffic of the field. In 12 or 18 months it may be obſerved, that the ſtraw being of one uniform ſubſtance, is all rotted and carried away, leaving a clear pipe through the land in every drain, into which the paſſage of the water may have been much facilitated, by a due attention to the filling of the drains with the moſt friable and porous parts of the ſurface the field might have afforded. From the price above ſtated to 2s. 6d. per rod (as noticed in the journal at Southminſter) is the expence, at which this moſt important of all improvements to the wet heavy lands is conducted in this county.

SECTION

SECTION III.

MANURE.

HE firſt conſideration which moſt naturally occurs to active intelligent and improving farmer upon this ſub-, is that of preparing and fitting his ſoil for the recep- of ſuch animal, and vegetable matter, as in the courſe his leaſe he may be able to collect for improving, and ually recruiting his exhauſting lands: previouſly hollow- ning the wet heavy parts of his farm, and afterwards lying the alteratives of chalk, clay, marle, ſand, or vel, which (though at the higheſt expence ſtated in the nal) will not diſcourage him, ſeeing in conſequence eof the land becomes more tractable and fruitful, and ch with proper management, he knows it will be found etain for a great length of time.

The blue and white chalky clay, which is applied ſucceſs- y, under ſuch different circumſtances through this nty, ſhould (in order to prepare it for an immediate and mate union with the ſoil) be ſtubbed and left expoſed to action of the air, ſometime before it is carried out, and ad upon the land.

n the application of ſand, gravel, or any ſilicious mix- to the heavy wet lands, care ſhould be taken to apply it in ntities ſufficient to divide, and completely to overcome natural adheſion of the ſoil; for if there is too ſmall a ntity uſed, a directly oppoſite effect will follow, and the l (on the principle of mortar) will acquire a diſpoſition n and cement together; thus inſtead of the tough clayey

clayey ſoil being brought to a more gentle temperament, their natural tendency will be increaſed to run together, and to cruſt upon the ſurface after rain, and every freſh ploughing.

In applying clay, marl, or any apparently unctious or ſoapy matter, to ſoils containing a ſuperabundance of ſand or gravel, the ſame caution is by no means neceſſary, as under the moſt convenient and favourable opportunities of procuring thoſe materials, there would be but little danger of ſuch a quantity being carried upon the land, as would contribute, even in the ſmalleſt degree, towards producing a ſimilar effect.

In every ſoil, be its nature what it may, occaſional dreſſings of lime are indiſpenſibly neceſſary to act upon the undiſſolved animal and vegetable bodies, thereby producing fermentation and vapour, or giving to them that degree of ſolubility, without which (as was obſerved in the report of Cambridgeſhire) it is impoſſible they can afford any direct nouriſhment to plants. The well-known property in cauſtic lime, which ſo rapidly diſſolves the texture and organization of all bodies, whether animal or vegetable, ſhould be an object of the moſt ſerious ſtudy and conſideration, to the improving farmer, who ought to be well adviſed of the fact, and to have it aſcertained with the utmoſt certainty, whether there is, or not, from the peculiar circumſtances of his ſoil, a direct and poſitive demand for ſuch a dreſſing. If on examination it ſhould be found to contain a conſiderable portion of animal or vegetable matter (and which a very ſimple chemical analyſis would readily determine) there can be no queſtion but lime would be of ſervice, and which upon all, and every occaſion, ſhould be applied by itſelf, unmixed with any other matter, immediately ſlightly covered, and in its freſheſt, hotteſt, and moſt cauſtic ſtate.

In

this view, we are chiefly to regard its operation in the
, and whether in its diſorganizing proceſs, it converts the
le, or a part only of the animal and vegetable ſubſtances
which it is in contact into the immediate pabulum or
of plants; and that the remainder, by ſubſequent union
other bodies, becomes locked up as it were in an in-
ble ſtate, but capable of being diſſolved again, and
erted into vegetable food, by the application of acids
lkali, is a queſtion of too much importance to the
culture of theſe kingdoms, to be careleſsly overlooked
he chemical agriculturiſt; as thereby a ſupply of vege-
food may be diſcovered, which if ſatisfactorily ex-
ed, and placed in a point of view, ſo as to enable the
piers of old, and apparently exhauſted, chalked, and
d lands, to reſtore and bring into action that quantity
egetable food, which may have lain dormant for ages
heir reſpective farms, would be a diſcovery indeed!
perſon who by ſuperior talents, and unwearied labour,
be ſo fortunate to develop this myſterious ſuggeſtion to
kind, will aſſuredly rank higher in the eſtimation of
in general, and the inhabitants of theſe kingdoms in
cular, than any of the moſt juſtly celebrated characters
ntient or modern times.

has juſt been obſerved, that ſuch a diſcovery would
y as well to the relief of the old chalked, as to that of
ld limed lands. From the preſent mode of applying
, by the time that it reaches the field, it becomes quite
, and differs very little from its raw ſtate, in that of
, ſaving than in its more completely perfect, and im-
able pulverization, its cauſticity is loſt and expended in
dung heap, and the gas or vapour there generated and
wn off, and which in its proper ſituation, would have
rially aided a growing crop, is improvidently loſt, as
fit to the farmer, and diſſipated by the winds.

Where

Where the length of carriage has not forbid the uſe of chalk, it has indubitably produced for a time upon the tough heavy clays in this county, very beneficial conſequences; the practice however, begins to be much deplored, and that by very obſerving and able perſons, on a ſuppoſition, that the old chalked lands, at this day, are equally obſtinate, and far more ſteril than they otherwiſe would have been, if chalk had never been applied.

With chalk, as with lime, and all other calcarious earth, in a proper ſtate, animal and vegetable matter, will to a certain degree combine, and in that combination produce fermentation and vapour, or form ſomething that ſhall be ſoluble in water: in either caſe, there is evidently a chemical action, the effects of which, contribute very largely to the powers of vegetation.

So long alſo as the chalk remains in an imperfectly diſſolved ſtate in the ſoil, it acts as it were mechanically, and renders the tough ſtrong clays and tile earths more tractable. But the whole of the chalk is capable of being carried downwards, by its ſpecific gravitation or ſolution in water; an effect, which after a few years, and in every ſoil that muſt neceſſarily take place, and the land will then be completely waſhed, and freed from the calcarious earth; here the mechanical action of the chalk muſt ceaſe, nor may it be adviſeable to renew it, quoad its beneficial effects mechanically, as it is preſumed, and not without good reaſon, that in like manner with lime, it has a tendency to lock up a large portion of vegetable food in an inſoluble ſtate, but capable of being diſſolved with ſome acid or other alkali, to which the inſoluble matter may have a greater affinity than to that of calcareous earth; an opinion which is ſtrongly ſupported by the preference generally given to ſopers waſte lees, and

aſhlip

lip upon old chalked ground, rather than to attempt a
ovation of the land by a new chalking.

The good effects of what the farmers generally term a
h tickling with chalk, is certainly to be aſcribed to its
chanical operation in the firſt place, but more generally
the richneſs and quantity of vegetable food, contained
the virgin mould, and with which the chalk is always
xed.

The application of manure upon the ſurface, or what is
erally called top dreſſing, ought chiefly to be regulated
the following conſiderations:

. Whether the ſoil is of ſuch a nature as to require any correction in its temperament, to render it more or leſs tender, open, or friable.

Whether the manure propoſed to be applied, is capable of operating to that end.

Whether ſuch manure is incapable of affording nouriſhment to vegetables, unleſs it is brought into cloſe and immediate contact, with ſome other power or latent principle, containing vegetable food in the ſoil.

. Whether the plant propoſed to be fed by ſuch manure, draws its nouriſhment principally from the ground.

he affirmative of all theſe caſes, it is plain the manure
uld be covered or lightly ploughed under.

But when the manure is of ſuch a nature, as to apply
lightly to ſuch conſiderations when it is capable
being diſſolved on the ſurface, and conveyed by water
wnwards to the roots of the plants, or by converſion
vapour, to be abſorbed by their ſtems or leaves; and that
plant is equally prone to receive its nouriſhment in both
s; the economy and effective operation of top dreſſings,
nqueſtionably the moſt highly beneficial, and greatly to
eferred.

SECTION IV.

CROPS.

As the general rotation of crops through this county, and the reſult of that management is accurately detailed at the end of each diſtrict, it only remains neceſſary to ſtate, in this place, ſuch obſervations as may probably lead to ſome improvements therein.

The ſyſtem of ſingle crop and fallow, is by many people much extolled for its ſuperiority, as a proper, and complete routine of heavy land huſbandry; complete it certainly is, and would be proper alſo, were it not poſſible to preſerve the land in much higher condition, and at the ſame time to render it more productive in valuable crops.

The plants which are deſigned to be generally recommended, as intermediate crops between thoſe of wheat, oats and barley, are peas, beans, tares and clover; the three firſt, from their drawing or requiring but little nouriſhment from the earth; the laſt, from its being well known as the beſt poſſible preparative for a crop of wheat. To theſe may be added, upon the drieſt land, the occaſional culture of potatoes, cole or rapeſeed, for ſpring food; and cabbages, though the expenditure of manure and labour, neceſſarily required in bringing to perfection the laſt named crop, muſt ever prove a bar to its general cultivation, and in the huſbandry of England, confine the culture locally, and to a very narrow ſcale.

In adapting the leguminous, as well as the farinaceous or white ſtraw crops, to the ſoils beſt ſuited to their nature, and

nd to the placing of the plants, or the ſeed, moſt properly
the ground, a few obſervations here may be particularly
eceſſary.

The land upon which peas or tares may be cultivated to
dvantage, does not require to poſſeſs ſo deep a ſtaple, as
at appropriated to the culture of beans; the ſeed of which,
moſt ſoils (be their texture what it may) ſhould never be
epoſited at a leſs depth than five or ſix inches below the
ttled ſurface of the ground. The neceſſity for placing the
an thus deep, will appear very obvious to any one, who
ill take the trouble to inſpect the root of the bean, when
e plant has attained to its full growth, and its ſeed to its
mpleat maturity: it will then appear evident, that from
e point where the ſeed was depoſited in the ground, it ſends
wnwards a long ſlender tap root, and upwards a thick
ong one: along this upper diviſion of the root, lateral
res are detached from the ſeed, to the ſurface of the
ound, and are evidently deſtined to collect and convey
uriſhment to the plant. The long tap root which deſcends
rpendicularly, and to a great depth from the point where
e ſeed was placed in the ground, being perfectly clear of
erals, will not be ſuppoſed to contribute, but in a ſmall
gree, to the growth and ſubſiſtence of the plant. Hence
e neceſſity of placing the bean to a proper depth in the
ound, that the plant may not be deprived of its proper
gans for receiving and conveying from the earth, that por-
n of nouriſhment which the bean requires; but which,
well as in the caſe of peas, or tares, will not be found
ual to that conſtantly demanded and drawn from the land
turnips, cabbages, and the white ſtraw crops.

To exemplify this truth, it is only neceſſary to attend to
e effect the root of trees produce along the hedge rows
on the laſt mentioned crops, but whoſe effects are ſcarcely
e diſcerned in thoſe of peas, tares, and beans.

Clover is obſerved to be effected, in a certain degree, by the exhauſting power of the roots of trees and buſhes; but this forms a ſmall part only of the evil ſo generally complained of, that the land, after a while, gets ſick, and tired of this moſt valuable plant. That the land may require a change from clover, as well as from every other crop, is readily admitted, yet the frequent failure of that graſs upon the ſtiff heavy lands in this county, may (it is humbly preſumed) in too many inſtances be aſcribed to miſmanagement: for upon thoſe lands, it is the uſual practice, after making a ſummer fallow, to lay up the land into four furrow work for the winter; it being alledged (and with much reaſon) that the ſoil is of ſuch a nature, as to require the meliorating influence of the froſt, to render it ſufficiently tender and open, for the reception of the ſpring grain. As this land may be more or leſs liable to be chilled and injured with water, the furrows are ſhut cloſe, and the ridges laid the higher. In this ſtate the fallow remains through the winter, and the ſpring corn is too frequently ſown without previouſly harrowing the ridges to a ſmooth and even ſurface, for the ſeed to lodge upon. The barley however is ſown, the ridges are made the furrows, and after being ſlightly harrowed acroſs, the field is ſown with clover: hence the barley which fell into the furrows gets overburied, and a ſick and languid appearance prevails along the top of the ridges during the ſpring, and early part of ſummer; and although at harveſt the plant of clover may appear both uniform and ſufficient, it is nevertheleſs in the ſpring following found to fail upon the tops of the ridges, and the field too often remains partially barren, during the enſuing courſe of the ſummer ſeaſon.

To account for theſe effects it is neceſſary to premiſe, that the ſeed of barley, oats, wheat, and rye, ſhould be placed

d in the ground, as nearly as poſſible to that point upon main root, where the lateral fibres are put forth for ng and ſupporting the plant, and which in moſt ſoils be found to be between an inch and a half and two s below the ſettled ſurface of the field. Until theſe are formed, the ſeed roots, or thoſe protruded directly the grain, are the only organs by which, through a cord, the plant can derive any poſſible nouriſhment. more remote therefore the grain or kernel is placed the crown of the plant, the more weak and languid the circulation and ſupply of thoſe juices be, which in arly growth of the plant, and before the unfolding of liage, muſt form its principal, nay only ſupport. Hence nhealthy appearance of young barley, and indeed that very other grain, when improperly put into the ground, injudiciouſly covered.

he cauſe of the loſs in the plant of clover, upon the of the heavy land ridges, appears equally clear and luſive.

is well known, that the roots of the clover act directly nwards, and to a conſiderable depth. The highly ex- d ſituation of theſe ridges, occaſions the froſt to act its fulleſt force, penetrating to their centre, and forming ne (if the word may be uſed) of ice, through the heart very ridge; here, after the firſt froſt, the tap root of clover is rivetted, whilſt the frequent and alternate zing and thawing of the ſurface in the courſe of the er, ſwells out, and burſts the top of the ridge; thus king the tap root, and deſtroying the plant of the clover ence its deſtruction upon the tops of the ridges, and its y in the furrows, where the plant is fortunately ſecured nd the reach of ſuch a fatal influence.

A few

A few words with regard to the culture of cabbages, will be ſufficient to point out the neceſſity of an intermediate tranſplanting of the young plants between the ſeed bed and the field; for, when the plants are drawn from the ſeed bed, and put directly into the field, they are found to be out of all proportion, tall, ſlender, and altogether unfit for their new and expoſed ſituation: to this muſt be added, a long tap root without lateral fibres; and which neceſſarily undergoes ſeveral twiſts and doubles in the hole by the operation of planting: here the plant languiſhes till its lateral roots are formed, which is gradually doing as the tap root decays. As the ſeaſon may be more or leſs kind, the plant may droop for a while, but it too often happens, and that in deſpite of the moſt unwearied induſtry, that the plant loſes its life, and its tap root together: hence ariſes the neceſſity of ſuch frequent replantings, and herein lurks the cauſe of that univerſal langour, which ſo long prevails through all the fields of cabbages that are thus tranſplanted into the field directly from the ſeed bed. It is the nature of the cabbage to loſe its tap root upon its firſt removal; and in its place is put forth a bunch of lateral roots, juſt below the ſurface of the ground. The ſtem of the plant then begins to ſtrengthen, and its leaves to ſpread. This change in the root being compleated from an intermediate tranſplanting, the young plant will be the better able to combat the hardſhips of its new ſituation in the field; for being already furniſhed with lateral roots, its nouriſhment from the ground will be immediate and certain; it will flouriſh, and come to an early maturity, rather than languiſh for a while, and then periſh, as thouſands now do, or creep ſlowly on till late in the ſeaſon, they arrive at a ſtunted and unprofitable end. In proportion as the lateral roots increaſe, and collect nouriſhment, the plant heads and flouriſhes; nor would the kindlieſt plant upon the

moſt

favoured ſoil, cabbage, or ever come to perfection, it not by ſome means or other deprived of its tap root. expence therefore, of an intermediate tranſplanting be- the ſeed bed and the field, to thoſe who are deſirous of ing in the culture of cabbages, can bear no proportion ſoever, to the labour, expence, and diſappointment, muſt for ever await the want of ſo material a training reparation of the infant plant.

the obſervations in this ſection have been particularly ed to the crops, produced from the huſbandry of the lands, it follows regularly in courſe, that ſomething d now be noticed concerning thoſe crops produced from uſbandry and management of the lands, which are of a gentle light and temperate nature.

at the common huſbandry of this deſcription of land atly to be improved, is clearly manifeſted by the details reat Bardfield, Aveley, and Hornchurch, where the ity of fallowing is in a great meaſure done away, by nd being continually occupied under a ſeries of pro- e crops. That nature is never at reſt, is no where clearly exemplified than in the caſe of a fallow field, h being no longer employed in the ſupport of a crop is valuable, is voluntarily putting forth weeds and ſh, which it would ſurely have been wiſer to have nted from growing, by the umbrageous influence of a xhauſting crop, than to have encouraged their growth e ſole purpoſe, as it ſhould ſeem of incurring a heavy nce in deſtroying of them afterwards.

e quantity of gas or vapour that is hourly exhaling a fallow field after rain, or every freſh ploughing, is vidently loſt; and argues a want of economy that is reprehenſible: indeed it has long been a matter of

ſerious

ſerious conſideration, and doubt, whether in the proceſs of fallowing (the temperate and light lands) that the ſucceeding crop may not be injured to a greater degree, by the frequent and long expoſure of the energies of vegetation to the ſummer's heats, than may be equal to all the benefit derived to the crops by the deſtruction of weeds; for which purpoſe however, the leguminous crops, and the hoe, form an admirable ſubſtitute.

That the hoe will anſwer an excellent purpoſe in cleanſing and meliorating the ſurface ſoil, there can be no doubt; at the ſame time it is material to recollect, that as the fibrous roots of the corn approach ſo very near the ſurface, a due regard ſhould be paid, both to the time and manner of conducting its operation; as the diſſevering from the root, or bruiſing the ſmalleſt fibre, muſt be productive of proportionate detriment and injury to the crop.

The weed hook in many caſes will be found more effectual than the hoe, particularly in keeping down thiſtles and thoſe weeds which have a pipey ſtem; for it has frequently, and may always be obſerved, that thiſtles cut an inch above the ground, will not be ſo formidable at harveſt, as thoſe cut at the ſame time with the hoe, and below the ſurface. In the former caſe, the remaining ſtub of the thiſtle gets filled with water, which reſting upon the crown of the plant, injures it ſo far, as to occaſion a few feeble ſhoots only to riſe; whilſt in the latter, ſtrong and luxuriant ſhoots ſtool forth, that become extremely injurious to the crop, and inconvenient to the reapers.

The weeds, which to guard againſt in this county, require the greateſt care, and are attended with the heavieſt expence in keeping under, are the black graſs and crows garlick; theſe are found moſt generally to prevail upon the ſtrong moiſt

t ſoils, and are only to be kept within moderate bounds, aking a thorough ſummer and winter fallow for ſpring , rather than for wheat; and as there is no condition or heart, in which the land may be, that will in any wiſe nt theſe weeds from materially injuring the moſt pro- ng crops, it has been found expedient to encourage their th to a certain ſtage, that their deſtruction may be ered more complete, by ploughing them under.

Vild-gold, couch-graſs, gooſe-graſs, red-weed, are pro- onately troubleſome upon their various ſoils; the firſt be eradicated by hoeing and weeding, though at much rd to the crop, expence and labour: as to the , the means of ſubduing them, are ſo well known and iſed, as to require but little further to be ſaid upon the ct.

o complete however their deſtruction, and the neceſſary erization of the lighter land, it cannot be neceſſary lough ſo frequently, though it is abſolutely required to gh much deeper, than is the common practice at this . Upon the light tender lands, one or two clean deep ghings is all than can poſſibly be required for a ſingle (and ſtrange to ſay) one or both of theſe earths, under in circumſtances, had better be diſpenſed with; as the -hoe, roller, and harrow, will, in many caſes, do all is neceſſary.

om too much ſolicitude (and there are but few that will urniſh examples of the truth) we often defeat the very oſe we wiſh to ſerve; and herein the care of the Eſſex er is often requited with loſs and diſappointment, inſtead at benefit and reward, he ſo juſtly merits by his diligence labour. The pains ſo unremittingly beſtowed in pul- ing the ſoil for turnips, is frequently the principal cauſe failure of that crop, it being no unuſual appearance

in a field ſown with turnips, to find a regular healthy plant in the furrows, whilſt along the tops of the ſtetches the failure of the crop is regular throughout the field; and this can only be accounted for from the moiſture exhaled from the former furrows, and to which the top of the ſtetch was not proportionably expoſed: the drought here muſt have penetrated on each ſide, and in the bottom of the furrow, and finally have exhauſted thoſe parts of the field of that portion of moiſture, retained in the body of the ſtetch; for although in the laſt ploughing, the top of the ſtetch became the furrow, and conſequently a greater ſurface was then expoſed to exhalation, yet it ſtill retained a ſufficient quantity of moiſture, not only to cauſe the ſeed to vegetate, but to puſh the infant plant into the rough leaf, and completely out of danger; hence ariſes a neceſſary caution in preparing for turnips, to guard againſt the diſſipation of moiſture, by reſtraining as much as poſſible, the too frequent ploughings, in ſummer fallowing of the field.

A conſiderable part of the moiſt ſand, and gravelly loams, might be cultivated with turnips to advantage, were the Scotch two-furrow or ridge practice properly purſued, and the land left well water furrowed. With the means of a low carriage upon a ſled, the turnips might be got conveniently from off the land, and in this, great care ſhould always be taken to have the field cleared before Chriſtmas, or at fartheſt before the ſpring or ſeed tops begin to ſhoot, otherwiſe a very material injury will accrue to the ſucceeding crop.

The blights which immediately deſtroy, and thoſe which often precede the inſects that more or leſs prey upon the roots, leaves, bloſſoms, and tender kernels of plants, are of all the evils attaching upon the rural life, the moſt calamitous

ous to the farmer, falling as indiſcriminately upon the uſtrious and ſkilful, as upon the ſlothful and undeſerving.

The red gum or ruſt, which prevails through the Roding rict in a dry ſummer, and which ſo materially injured crop of barley laſt year, is generally obſerved to come when the barley is in ſpindle, and to precede a fly which kes the bloſſom or ſeed veſſels of the wheat; here a mag- is produced, and ſoon after the grain is ſet, it feeds upon, conſumes the tender kernel. Something very ſimilar is uently noticed in the clover, and proved generally in- ous to the ſeed laſt year. In every part of the county, particular in Dengy diſtrict, the fly called the collier, de conſiderable ravages among the beans; and the crops peas and tares were deſtroyed early in the ſummer, by a ll green inſect, reſembling a young graſshopper.

To prevent theſe viſitations is impoſſible, but in ſome ſure to palliate their injurious effects, may probably lie hin the power of man; and this to a certain degree has n effected, in preventing the curly blight in the culture otatoes, and the ſmut in wheat.

easoning thus, and taking into due conſideration the very ortant benefits which are derived from coal tar, in pre- ing the depredations of marine inſects on plank and er; it very naturally occurs, that a preparation of coal judiciouſly applied, might not only produce a ſimilar t againſt inſects in the ground, but by its gradual and ar ſolution, become matter of food for the nouriſhment of ts; and this leads to a very important conſideration of far the application of coal tar may be rendered ſervice- by prolonging the durability of poſts in the ground, in like manner for the preſervation of hop poles; to particular point it is with extreme pleaſure, an op-

portunity offers for ſtating the ſubſtance of a converſation with the Earl of Dundonald on this ſubject, who recommends the following method of preparing the hop poles, to the ſerious attention of the growers of hops.

The ends of the hop poles, intended to be inſerted in the ground, ſhould firſt be ſtripped of the bark for the length of thirty inches. The poles muſt then be pointed, and ſcorched or burnt, until the ſurface, from which the bark has been taken, becomes black. The cuſtomary depth which the poles are fixed in the ground, will regulate how much of the pointed end ſhould be treated in this manner. The burned end of the pole, whilſt hot, ſhould be dipped into thin coal tar, which ſhould be previouſly made warm in order that the wood may abſorb as much as poſſible. There perhaps may be an advantage in dipping the pole the whole thirty inches, ſtripped of its bark, ſo that twelve inches of what is covered with coal tar, ſhould be above the ſurface of the ground. The poles are then to be ſtacked with their pointed ends upwards, until ſufficiently dry; after which, they ſhould be dipped in coal pitch, made boiling hot, and ſet up a ſecond time in the ſame manner, and ſo remain until they are required for the plants. If the poles are ſubject to injury at the upper or ſmaller ends, dipping them into the coal tar, might probable be of uſe, in preventing the ſeparation of the bark, or the harbouring of inſects.

The tar and pitch may be had in different ſtates of preparation, at the Britiſh Tar Company's Office in London. This practice was recommended, and apparently with good reaſon, by Lord Dundonald about ten years ago.

CHAPTER

CHAPTER THE THIRD.

Pasture.

THE iſlands bordering upon the ſea coaſts, (Merſea epted) and the lands which have been produced by, and banked at different periods from the ſea, were formerly der paſture, but of late years a conſiderable portion of them e been brought under the plough. A ſtate of paſturage unqueſtionably beſt ſuited to theſe lands, particularly after y have been properly improved and brought to a good bage. In that ſtate they would be moſt profitably em- yed in grazing ſheep and cattle, were it not for an incon- ience which they all labour under, in the want of a con- nt ſupply of wholeſome water. With regard to ſuch of ſe lands as are appropriated to tillage, the practice of nauſling them before they are again laid into paſture and zing ground, ought carefully to be avoided; yet in all es where the rough and uncultivated marſhes have been eviouſly chalked, they ſhould be kept in occaſional motion th the plough for three or four years, and then laid down for rmanent paſture: but where this indulgence may not be owed by the landlord, the journal at Tooleſbury ſtates, at at a moderate expence, a very conſiderable improve- nt may be made in ſuch marſhes, by removing the ants s into the rills and low places. The water without injury

to the fences, might be run down to a lower level, by cleanſing, and deepening the partition ditches; and thus the ruſhes would be deſtroyed, and a more regular and effectual fence preſerved, together with a better ſupply of more wholeſome water during the dry ſeaſon.

After expoſing the cold and long ſettled ſoil of the old marſhes, to open and meliorate for three or four years under the plough; the laſt crop ſhould be taken and the land again laid down into graſs. From this treatment a very ſuperior herbage would be produced, anſwering equally well for making into hay as for feeding green and fattening cattle.

The hay which is generally made from the coarſer marſhes, though ſhut up in due ſeaſon for that expreſs purpoſe, as well laved, and of an equal quality to the eye, is not to be compared in point of nouriſhment, to an apparently good hay made from the higher lands; and as the graſs of the one is compoſed of nearly the ſame variety, and found in the ſame proportions as the graſs of the other, the difference can only ariſe from a want of that uniform growth and perfection in the marſh graſs, as there is in that which is grown upon the higher lands poſſeſſes.

This explanation is ſtrongly ſupported by the feeding quality of the marſh graſs, when ſelected by the cattle and eaten green.

The coarſe highland paſtures, (after having been previouſly hollow drained) ſhould undergo the ſame treatment as the coarſe marſhes; *but in neither caſe, ſhould the ſmalleſt portion of vegetable matter be burnt, that in any reaſonable time it were poſſible to rot.*

CHAPTER

CHAPTER THE FOURTH.

Poor and Labour.

HAT the value of labour is more generally proportioned the price of proviſions, in this county, than in many ers in the kingdom, may be readily admitted; but that poor's rates, which are now upon the rack rents through county 3s. 6d. in the pound, ſhould have increaſed one-rd of that ſum within ten years, and that alſo, without leaſt ſhadow of proportion in the increaſe of population, certainly very ſtrange, and argues a poſitive inadequacy in value of labour, to that of proviſion, or a general mis-nagement, or miſapplication *of the revenues of the poor.*

As revenues of the poor, they may now with as much ppriety, as roundly and as correctly be aſſerted, as any er revenue drawn from the ſubject, and attaching upon crown.

Upon this principle then, it would ſurely be adviſable to veſt this deſcription of people with ſuch an intereſt in the nagement of their own affairs, as would beſt comport h their judgment and feeling, and ultimately tend to the cluſive conſervation of that revenue agreeably to the poſes of its original inſtitution: at the ſame time pre-

vent

vent the future and further increaſe of that burthen upon the landed property of the kingdom.

With this view are the following hints ſuggeſted for the purpoſe of improvement.

Let the average value of labour in every pariſh be correctly aſcertained, and let an augmentation thereon be made equal to the annual amount of the preſent poor's rates in ſuch pariſh.

Let this exceſs be paid regularly, and in the uſual manner, with the daily or weekly wages; and let it be required that the ſame ſhall be ſubſcribed by the labourers of the pariſh, into, and form one common ſtock; ſubject to the appropriation and control of a committee of huſbandmen, that ſhall be elected as examinators, or inquiſitors, of the poor, by a majority of the ſubſcribing pariſhioners.

Let an order from this committee upon the (perſon who ſhall previouſly have been appointed) treaſurer, be the only authority for diſburſements to the indigent poor.

Let every ſingle man ſervant be eligible to ſubſcribe 2s. 6d. or 3s. in the pound, upon his yearly wages, and let this be the criterion of his right of ſettlement.

Let every other right of ſettlement, ſaving that of apprenticeſhip, be completely done away.

Let every labourer, or houſe ſervant, who thus receives additional wages for this purpoſe; the former withholding his ſubſcription for a month, and the latter at the expiration of his year; be conſidered as outcaſts, and diſqualified from ever being admitted as members of that ſociety: but here let the odium particularly reſt upon the labourer; let him be diſtinguiſhed

guiſhed and avoided as profligate, let him be ſtigmatized
orthleſs and abaſed for ever.

t the accounts of the treaſurer be audited every year,
et the balance in hand, or the exceſs of the fund be
red proportionately to appertain to each individual ſub-
r, upon which, ſuch ſubſcriber ſhall have a claim or
ſo far, as in the event of his removal, he may with-
it from that pariſh, and inveſt it in the ſimilar fund of
ariſh to which he wiſhes to remove; but in this transfer,
noney muſt on no account paſs through the hands of
bourer, but through the medium of the treaſurers of
pariſh.

his upon every occaſion would prove an acceptable pre-
r, and inſure the welcome of the labourer to his new
ion.

ow different the whole deſign from the melancholy ex-
nce of thouſands, who in the preſent day, and in the
of ſettlement only, are no longer treated as ſenſible and
nal beings, but are hunted like wild beaſts from pariſh
riſh, not becauſe they have offended againſt the laws
eir country, or otherwiſe poſſeſs evil, which ought to
cided; but too often becauſe they may have piqued the
h officers; or that ſome of thoſe gentlemen may occa-
lly wiſh for a frolick, at the expence of the pariſh, or
n agreeable excurſion in a poſt chaiſe: but this, together
the immenſe ſums annually expended in legal conteſts
erning the removal and ſettlement of paupers, and
h are neceſſarily charged to the account of the poor,
d on a certainty be ſaved, were an arrangement gene-
adopted, ſomewhat ſimilar in principle to that above
d.

ith regard to workmanſhip, or the mode and manner
nducting labour, it differs ſo very little from the

general practice in this part of the kingdom, that as little occurs in this place as neceſſary to be ſaid upon the ſubject. The mode of inning the harveſt at preſent, appears to be the moſt important and material.

In moſt places this is done by engaging a certain number of men, who receive a fixed ſum for their time, be it long or ſhort, and are fed by the farmers during the whole time: hence it frequently happens, that ſoon after the harveſtmen arrive, by the heat of the ſeaſon, and change of food, they get a ſurfeit, and many of them are laid up for the firſt week or ten days with inflammatory fevers. From a gallon and an half to two gallons of ſtrong harveſt beer, is their uſual allowance, with as much refreſhing ſmall beer as they chooſe to drink; this, together with a profuſion of animal and vegetable food, conſtitutes their daily fare.

In this manner the men are fed, and ſupported for a month or ſix weeks, but in the interim, what becomes of their wives and children? depending upon the harveſt wages, to pay rent, and provide a little winter fuel; they are compelled to ſubſiſt upon a few looſe ears, gleaned in the fields, inſtead of participating with the men in their labour and ſubſiſtence, by an arrangement ſimilar to that noticed in the journal at Sturmer.

By ſuch management the neceſſities of a poor family in that plentiful ſeaſon are much relieved. By their mutual co-operation and ſubſiſting together, their earnings are increaſed, and their little ſcale of comforts proportionably enlarged—The huſband in ſharing and dividing with his wife and children, the labour and comforts of the ſeaſon, becomes exempt from indiſpoſition, and the whole family are thereby invigorated to make the beſt poſſible uſe of that precious ſeaſon.

o diffuſe theſe comforts as generally as poſſible, and by
w arrangement in the management of the poor; to reſtore
honeſt pride, which was once the boaſt of the Engliſh
andman, (viz.) That he diſdained to receive aſſis-
e from the pariſh, but under the moſt preſſing cir-
ſtances of indigence and diſtreſs, cannot fail to prove
urce of the very higeſt moral and political conſequence;
n the very loweſt walks of life, as well as in thoſe of
er degree, there is a pride which diſplays the man, and
worth and dignity to the human character; and through
he ſhades of ſociety, which compoſe the inhabitants of
highly favoured iſland, there are none, who, without
compunction of poſitive guilt, that are ſo completely
ched, as not to derive ſome increaſe of happineſs from
ict adherence to virtuous emulation. To ſave from
ng, is better than to raiſe up; and to prevent an evil,
tter than to ſupply a remedy. Suffer a poor, but ſturdy
ghman, to receive the pariſh collection, and he feels
elf degraded for ever after: the pride which was once
oaſt, becomes his torment, and the very acts of pecu-
n, which his honeſt ſoul would have ſcorned before his
adation, becomes familiar under cover of the night,
the hope of concealment and impunity.

CHAPTER THE FIFTH.

Roads.

NOTHING can more clearly evidence the value and importance of good roads, than the great improvements to which of late years they have ſo much contributed, by affording a more ready admiſſion of manure, and a free circulation of air, thereby materially improving the ſoil and climate of Dengy Hundred. In many parts of the county the difficulty and expence of procuring proper materials for making good roads, is very great; but even in thoſe places (and although the materials may coſt from one-penny to three-half-pence a buſhel, and the road rates upon the rack rents being occaſionally from three to four ſhillings in the pound) the exertions of the pariſhioners are unceaſing, ſeeing that their health, comfort, and convenience, are ſo much dependant thereon. In this purſuit, however expenſive and meritorious, the exertions of the *tenantry* are often weakened and diſcouraged, by the very unequal aſſeſſment of the pariſh rates; and the yeoman and tenant are too often ſubjected to, and aggrieved by the impoſts inflicted upon the carriage and tranſportation of manure upon the adjacent public (and often inferior) turnpike roads; than which nothing ought to be more carefully guarded againſt; as in the general ſcale of rural improvements, impoſts of this nature muſt be conſidered as the moſt invincible of all obſtacles, to the improvement of thoſe lands which do not contain any natural manure, as thereby a prohibitory tax is laid upon the admiſſion and application of that which is foreign or artificial.

CHAPTER THE SIXTH.

Wastes and Forests.

no part of the kingdom can the value and importance nd be ſo great, as within a ſhort diſtance of the me- olis; yet in this county, to find ſuch extended and com- tively unproductive waſtes, is not more matter of ſurpriſe reigners, than a ſource of real injury to the kingdom at . The journal has already expreſſed ſo fully the preſent , and the probable improvement of which theſe lands apable, that little further remains to be noticed in this , than a few obſervations touching the expediency eeping ſuch parts of the foreſt land as are favourable e growth of oak timber, expreſsly for that purpoſe.

The right of cutting wood, varies in different parts of e foreſt; and where it is left to the diſcretion of the in- abitants, nothing but mutilated hornbeam pollards are be ſeen, whoſe heads are cut whenever a few faggots n be collected from them.

No buſhes are there allowed for the protection of the ung plants, without which, a ſucceſſion of trees cannot preſerved againſt the bite of the deer and other animals.

On that part of the foreſt, within the pariſh of Epping, iſiſting of 527 acres, the lord of the manor has by dif-

" ferent

" ferent grants from the crown, the excluſive right of " all timber, underwood, and buſhes. The land is well " adapted to the growth of wood in general, more particu- " larly to that of oak, which by the judicious management " of the preſent poſſeſſor, is in a very flouriſhing ſtate.

" The ſoil of the foreſt is either of a brick earth, or a " cold gravelly clay; and (as was obſerved in the journal) " the deer have increaſed very much of late years, not to " the advantage of the neighbouring farmers, whoſe crops " of hay and corn are certainly much injured by them."

CHAPTER

HAPTER THE SEVENTH.

Tenures.

NE very material error exiſts in the preſent mode of pying farms throughout this county; which is that of one n monopolizing ſeveral farms, and holding them as it is d, " off hand". Theſe farms lie frequently detached ery wide of each other, and a looker or ſuperintendant, n or twelve ſhillings per week, occupies the ruins of the anſion or farm houſe, which was heretofore the ſeat of tality, induſtrious emulation, or modeſt virtue. In ourſe of the tour, it was obſerved, with much indif- ce by an overgrown farmer's wife, " that her huſband *but* nine farms in his occupation;" each of which further enquiry was found to be equal to the care and l of the ſame number of equally ſkilful and reſpec- , although perhaps not ſuch wealthy and imperious ies.

his practice of conſolidating, or rather ſuffering one n to occupy and monopolize, ſo many diſtinct farms, ithout going into the queſtion at large, which would re too much room) whatever may be aſſerted to the ary, fraught with more evil, and is more deſtructive to gricultural improvement and produce, and political in- s of this country, than any other at preſent exiſting, which cannot be done away, without the power and au- of Parliament.

With

With reſpect to leaſes, there is but little room for complaint in this county, as the farms in general are held under running leaſes for three ſeven years, which are virtually and in fact leaſes for twenty-one years; hence the general ſpirit, and coſtly improvements of the Eſſex farmer, ſtand unrivalled in any part of the kingdom.

In the agricultural ſurvey of Aberdeenſhire, a plan of a leaſe by the late Lord Kaims is noticed, which, with Dr. Anderſon's additions, is made by that gentleman to embrace every thing neceſſary on that ſcore, to further the improvement of the country; at the ſame time mutually and equally to conſerve the intereſt of the landlord and the tenant. The ſcheme, which is certainly the offspring of ingenuity, combined with the produce of a great deal of thought, is as follows:

"I am extremely happy to have it in my power on this "occaſion to lay before the public at large, through means "of the honourable board to whom this report is addreſſed, "a plan of a leaſe which is perfectly adapted to ſecure a "like intereſt of the tenant and the legitimate rights "of the landlord; by which the rights of humanity can "never be violated, and which can apply to all poſſible "caſes, ſo that neither of the parties can ever acquire an "undue advantage over the other in any ſituation of "things. To effect all theſe things appeared to me for a "great many years to exceed the powers of human inge-"nuity to deviſe. It has been done; and the public are "obliged to the late Lord Kaims for this excellent de-"vice.

"His lordſhip propoſed that the leaſe ſhould extend to "an indefinite number of years, conſiſting of fixed periods, "at the end of each which a riſe of rent ſhould take

"place

ace, with permiſſion for the tenant, at the period of ch of theſe riſes of rent to give up his farm if he ſhall e proper, and granting a ſimilar power to the landlord on proper terms, to reſume his land if he ſhall think . The particulars of this contract, and the grounds which they reſt are as under.

He aſſumes it as a poſtulatum that a landlord and te- nt are capable of forming a tolerably juſt eſtimate of e value of the land in queſtion for a ſhort period of ars, ſuch as it is cuſtomary to grant leaſes for in Scot- nd: ſay twenty-one years. And having agreed upon theſe rms, which, for the preſent we ſhall call 100l. rent, the nant expreſſes a wiſh to have his leaſe extended to a nger period. To this the proprietor objects, on this ound, that it is not poſſible to form a preciſe eſti- ate of what value the ground may be at the end of at period. He has already ſeen that ground for the t twenty-one years has increaſed much more in va- e than any perſon at the beginning of that period uld eaſily have conceived it would have done, and erefore he cannot think of giving it off juſt now for a nger period, as a ſimilar riſe of value may be expected take place in future. This reaſoning appears to be ll founded, and therefore to give the landlord a rea- nable gratification, he propoſes that it ſhould be ſti- lated that if the tenant ſhould agree to give a certain e of rent at the end of that period, ſuppoſe 20l. the ndlord ſhould conſent that the leaſe ſhould run on for other period of twenty-one years; unleſs in the caſes be aftermentioned.

But as it may happen that this 20l. now ſtipulated to paid at ſo diſtant a period, may be more than the far- will find he is able to pay, an option ſhall be given to

" him to reſign his leaſe if he ſhould find that is the caſe, by " giving the landlord legal notice one year at leaſt, before " the expiry of the leaſes; but if that notice be omitted " thus to be given, it ſhall be underſtood that the tenant " is bound to hold the leaſe for the ſecond twenty-one " years, at the rent ſpecified in the contract. And if the " landlord does not give the tenant warning within one " month after that period, it ſhall be underſtood that he " too is bound to accept of the ſtipulated additional rent " for the twenty-one years that are to ſucceed.

" It may however alſo happen that the ſum ſpecified " in the leaſe may be a rent conſiderably below the then " preſent value of the farm: or the proprietor may " have very ſtrong reaſons for wiſhing to reſume the poſ- " ſeſſion of that land, or to obtain an adequate rent for it: " a power therefore ſhould be given to him in either caſe to " reſume the lands, if he ſhould ſo incline. But as a great " part of that preſent value may be owing to the exertions " of the farmer, who has laid out money upon the farm in the " hopes of enjoying it for a ſecond period of twenty-one years, " it would be unjuſt to deprive him of this benefit without " giving him a valuable conſideration for that improved " value. On this account it ſhould be ſtipulated, that in " caſe the proprietor at this time reſumes the farm, he ſhall " become bound to pay to the tenant TEN years purchaſe " of the additional rent he had agreed to pay; which in the " example above ſtated would be 200l.

" But the land may be worth ſtill more than the 20l. " of riſe mentioned in the leaſe, and the tenant may be " content to pay more, ſay 10l. rather than remove; and he " makes offer accordingly to do ſo. In that caſe, the land- " lord ſhould be bound either to accept that additional offer " or to pay *ten* years purchaſe of that alſo; and ſo on for

" every

ery other offer, the tenant ſhall make before he agrees
remove from the farm.

In this way the landlord is always certain, that he can
ver be precluded from obtaining the FULL value for his
nd, whatever circumſtances may ariſe. And if the tenant
all prove diſagreeable, ſo that he would wiſh rather to
t another in his place upon the ſame terms, it never
n be any hardſhip upon the landlord to pay the ſtipu-
ted ſum; becauſe it would be the ſame thing to him
if he bought a new eſtate at TEN years purchaſe free
taxes: a thing he never can expect to do. It is indeed
ue, that it would be more advantageous for him to allow
e preſent tenant to continue: and therefore this alter-
tive will be always, unleſs in very extraordinary caſes
cepted of, as it ever ought to be; and thus the tenant's
ind is impreſſed with a conviction that he will con-
ue in his poſſeſſion: a conviction that ought ever to
evail, becauſe it ſtimulates to induſtry in the higheſt
gree.

And as the tenant is thus certain, that at the very
orſt, his family muſt be entitled to draw a reaſonable
muneration for the exertions of his induſtry, he can
ver find the ſmalleſt tendency to ſlacken his endeavours
any way.

By ſtipulating in the original leaſe in the ſame manner,
t at the end of the ſecond twenty-one years the leaſe
ll be continued for twenty-one years more; and ſo on
the end of the third, and fourth, and any farther
mbers of periods of twenty-one years, on agreeing to
y a ſpecified riſe of rent; reſerving to each party the
ne privileges as above deſcribed, the leaſe might be
ntinued to perpetuity, without either party ever being
anger of having an undue advantage over the other.

" The tenant will always be certain of having a preference " given him over every other perſon, and will of courſe go " on with unceaſing exertions to better his land, which will " of neceſſity tend to augment the income of the proprietor " much more than could have happened under any other " ſyſtem of management.

" Such are the outlines of that plan of a leaſe that his " lordſhip has propoſed. By this plan the tenant's hands " are not tied up by reſtrictive clauſes dictated by igno- " rance, under the pretext of ſecuring the intereſt of the " landlord. His intereſt is ſecured in a much more effectual " manner, while the tenant is left at full liberty to avail " himſelf of his knowledge, his ſkill and his induſtry. " Inſtead of ceaſing to begin any arduous undertaking, as " he ever muſt do where he has no leaſe, or of beginning " to improve for a few years only at the commencement of " his leaſe, but ſtopping in a ſhort while in the midſt of " his career, and then running it down to the ſame exhauſted " ſtate as it was at its commencement, he continues to puſh " forward without ever ſtopping; and advances even with " an accelerating progreſs for an endleſs period of years. " No perſon but an experienced farmer can conceive the " difference that would be between the productiveneſs of the " ſame land under this management, at the end of a hun- " dred years, from what it would have been if let even for " detached periods of twenty-one years each. In unimproved " waſte lands, the difference would approach to infinity. " In lands which were originally very rich, the difference " would be leſs conſiderable; but in all caſes were cul- " tivation could take place, the difference would be very " great.

" It is worth remarking here alſo, that if this arrange- " ment were adopted, a new order of men in civil ſociety

" would

" would be created, different from any that at preſent
" exiſts. They would be inferior in point of rank to that
" claſs of men who are called *gentlemen*, and ſuperior in
" point of wealth and energy, not only to the preſent order
" of *farmers*, but even to that claſs of men who are called
" *yeomen*. The peculiar political advantage attached to
" this order of ſociety would be, that while their exertions
" would always inſure influence, that influence never could
" become ſuch as to permit them, by imitating the life
" of the higher orders, to neglect their own proper con-
" cerns; for the moment they did ſo, their exertions in
" buſineſs would become ſlackened, in conſequence of
" which, they could not afford ſuch a rent as others around
" them would be willing to give, and ſo they muſt quit
" their leaſe.

" Here we are led to perceive the moſt eſſential difference
" between *thus* granting what may almoſt be called a per-
" petual leaſe, and every other *long* leaſe that ever yet has
" been tried; for in all other long leaſes, if the rent ſtipu-
" lated at firſt ſhall prove to be at laſt inadequate, and the
" holder of the leaſe be reduced to poverty, by diſſipation
" or otherwiſe, he may neither himſelf be able to cultivate
" the ground properly, nor can another be permitted to do
" ſo; and by this means the proprietor may not only be,
" for a long period of years, deprived of an adequate value
" for his land; but that land alſo being locked up from
" improvement, may be doomed long to remain in a degree
" of comparative ſterility. Nothing of that kind could
" here happen. It differs alſo very much from that ſort
" of tenure which is called yeomanry, in which their ſmall
" capital, which if properly applied, would have been juſt
" ſufficient to give ſcope for agricultural exertions, by be-
" ing locked up on the original purchaſe of the land, de-
" prives the poſſeſſer of the only funds he had in his
" power

" power to apply for improving his land. Inſtead of active " exertions, and chearful affluence through life, he is thus " ſtinted in every exertion; and is doomed to a perpetual " hard ſtruggle againſt the haraſſments of poverty. In ſhort, " were I either a proprietor or a tenant, I ſhould either " let or take land upon theſe terms in preference to any " other I have ever heard of. †

" Several little clauſes have been overlooked by his lord- " ſhip which it would be neceſſary to advert to. Some " proviſion ought to be made reſpecting trees on a leaſe of " this kind,—as it is probable the tenant might find it con- " venient to plant, which by the common law of Scotland, " he cannot do at preſent with a view to profit.* Per- " haps the wood, if any was on the farm at the time of his " entry, ought to be valued; and he ſhould be bound to leave " at leaſt an equal value upon it, or pay the balance. " Whatever timber trees he himſelf had planted, he ſhould " be at liberty to cut at pleaſure, for the uſe of the farm, " unleſs it were ſuch individual trees as the landlord, from

† " Thoſe who are fond of political calculations may have here full ſcope for " their ingenuity, by ſuppoſing that two men of equal ſpirit, knowledge and " capital ſet out in the agricultural line, one of them as a FARMER on a leaſe " of the kind here propoſed, and the other as a ſmall proprietor, or YEOMAN. Let " the capital be taken any how at random, ſay 2000l. The YEOMAN we ſhall ſay " lays 1500l. of that ſum on the purchaſe of a farm, which at thirty years pur- " chaſe, the uſual rate at preſent, would be worth 50l. a year, and he has 500l. " left for ſtocking and improving it. The other leaſed a farm which at a fair rent " was worth 200l. a year. Let him follow out the calculation, firſt in regard to " the profits that the different occupiers themſelves can enjoy, and the rate at " which their families may afford to live, and ſecond, with regard to the aug- " mentation of agricultural produce that each of them could afford to the ſtate; " and let this be continued for the ſpace of an hundred years. Let him then " ſtrike the balance and ſee what an amazing difference.

* " By the law of Scotland, no tenant has a right to cut any trees upon his " farm.

" ſituation

ſituation or other cauſes, ſhould think propper to mark for reſervation. He ſhould alſo have permiſſion to ſell ſuch trees as he enclined, unleſs as above reſerved, or during the laſt ſix years of any of the twenty-one years of the leaſe. But in caſe of his removal, the proprietor ſhould either permit him to ſell the whole trees that was over the value of the ſtock at his entry, or take the whole, or ſuch part as he choſe to reſerve, at an appreciated value. In caſe of his removal alſo, the tenant ſhould be bound not to out-labour the ground during the laſt ſix years of the leaſe, or to crop it improperly, or to carry off any ſtraw or dung: otherwiſe to pay the damages that ſhould thus accrue to the landlord at the eſtimate of two honeſt men to be mutually choſen: and to leave the houſes in a habitable condition, and the fences in good repair. There ſeems to be no other clauſe neceſſary in ſuch a leaſe.

" *Farm buildings*, &c. With regard to ordinary leaſes for nineteen or twenty-one years; one of the greateſt inconveniencies to which tenants in Scotland at preſent are ſubjected with regard to theſe is what reſpects houſes. The houſes are for the moſt part very poor; and many proprietors throw too great a burthen upon the tenants. This is highly impolitic. Nothing contributes more to the content and conveniency of a farmer than good and well diſpoſed buildings. It elevates his mind; gives him ſpirit to purſue his operations with alacrity; and contributes in many inſtances to augment his profits. On theſe accounts he ought to have them.* But on no account ſhould he be induced to expend that ſtock upon building houſes which ſhould be employed in extending his own proper buſineſs; it ought always to be done by the landlord; and in general, a good ſet of houſes upon a farm will bring a much greater additional rent than the intereſt

" of

* " I never yet ſaw a thriving tenant who had not neat houſes.

" of the money expended upon them. If then a farmer " poſſeſſing a farm, or bargaining for one, wiſhes to have " houſes, theſe ſhould be built by the landlord in a good " ſubſtantial manner, on a plan ſuggeſted, or at leaſt ap- " proved by the tenant. The tenant furniſhing carriages " and paying at the rate of five per cent. for the money ſo " expended; becoming bound to uphold the houſes in good " repair, during the currency of the leaſe; and to deliver " houſes to the value at leaſt of the money expended by " the landlord; taking the tenant bound likewiſe to pay, " along with his rent annually, the premium of inſurance " for the value of the houſes againſt loſſes by fire. " Any other reſtrictions are unneceſſary even in this caſe " than thoſe above ſpecified reſpecting the laſt years of the " leaſe.

" Draining, trenching, and other expenſive operations " on a farm that continue to be *permanent* improvements " ought alſo to be done by the proprietor; the tenant who " deſires theſe to be done, agreeing to pay the proprietor " during the currency of his leaſe, by way of additional " rent, at the rate of five *per cent.* on the money thus expend- " ed under his own eye, and in the mode approved of by " the proprietor. In this way he would be making con- " tinual additions to his eſtate, at the rate of twenty " years purchaſe, *free of taxes*; and as the tenant would " thus alſo be enriched, he would be enabled to adopt other " ſpirited modes of improvement, which would render " it ſtill more valuable; ſo that if the plan of a leaſe " here explained were adopted, he would in many caſes be " enabled to draw at the end of each fixed period inſtead " of five, perhaps twenty-five per cent. for the money ſo " advanced. By making improvements ſomewhat on this " plan, for the behoof of his tenants, Mr. Bayly, of Hope, " near Mancheſter, has advanced the rent of his eſtate in

" little

little more than twenty years near ten fold!!! Operations on the ſame plan have been carried on upon a conſiderable extenſive ſcale by Mr. Cumming of Achry in Aberdeenſhire; who has in like manner by that means greatly increaſed the value of his eſtate."

It would be equally preſumptuous and obſtinate to withold that due approbation which the excellency of this plan juſtly claims; at the ſame time, the following obſervations are with all due deference very humbly ſubmitted.

The tenant ſhould be reſtrained, and that under the ſtereſt penalty that it were poſſible to deviſe and enforce edience to, during the whole term of his leaſe, from eaking up the prime paſtures, or any of the meadow d.

The compenſation to the outgoing tenant ſhould be confined ſtrictly to the value of ſuch benefits as the farm has tually, and excluſively derived from his labour, ſkill, and pital; and which ſhould be determined by [the judgment perſons living in the neighbourhood, and appointed by h party: otherwiſe local circumſtances, under which ſtrict juſtice the tenant can have no ſhadow of claim, ll ſubject the landlord to an unfair diſburſement, and ing from him that conceſſion which in ſtrict equity he ght to reſiſt. The change in the value of money; the inaſe of trade, or the eſtabliſhment of a manufactory in the inity of the farm; and the conſequent increaſe of population in the neighbourhood: the making of new, or the provement of old public roads: the proximity of an inland vigation: a general plan of drainage; or the diſcovery ſome natural manure (upon the farm) applicable to the ther improvement of the eſtate; are all circumſtances ghly favourable to the intereſt of the owner, but which ght never to be appreciated by the outgoing tenant, as no

merit can attach to him from them, being the excluſive and indubitable immunities of the proprietor and of no one elſe.

Under ſome ſuch modifications, the plan appears practicable—the tenant and his family will be ſecured in the full value of their improvements; and the landlord protected in the juſt and full enjoyment of the increaſing (real or nominal) value of his eſtate.

Having now adverted as particularly as the nature and limits of this paper will admit, to moſt of the ſeveral and diſtinct objects which formed the purpoſe of the ſurvey, it now remains neceſſary to condenſe and put the whole into the ſmalleſt poſſible ſpace, and under thoſe general heads ſtated in the beginning.

The firſt will comprehend all thoſe obſtacles to improvement in the rural economics of the county, which the efforts of the individual, the co-operation of neighbours, or the union or agreement between landlord and tenant, may entirely remove, or in a great meaſure remedy. They are divided as they have occurred into ſeparate propoſitions, and are as follows:

1. To guard againſt the exhauſtion of dunghills, by preventing the rain from waſhing out, and the running to waſte of its moſt valuable liquor, whether in the yard, or expoſed along the hedgerows.

2. To be careful in the application of manure, and to weigh well and be ſatisfied in the propriety of ploughing it under, rather than to uſe it as a top dreſſing.

3. To diſcontinue the practice of burning the ſtraw of coleſeed, muſtard, coriander, carraway, &c. and upon every occaſion to reſiſt the diſſipating effects of fire,

upon

he ſmalleſt ſcruple of animal or vegetable matter, n any reaſonable time may be brought to rot.

o apply ſand, or any ſilicious matter in great quan- ſtrong tough clay, or not at all.

o expoſe chalk, marl, clay, for ſome time to the ction of the froſt, ſun, and air, rather than to at- an immediate union of them with the ſoil by plough- m under.

o ſwerve from the cuſtomary practice of performing ole day's work at plough, or harrow, in one journey and an half or eight hours, and in its place, to divide into two journies of four and an half or five hours

o loſe no opportunity in cultivating green food for or cattle; and to keep the former in the yard, or throughout the year.

o ſummer fallow the heavy lands for ſpring corn, than for wheat, and to dung upon the young clovers, ference to the fallows or the clover leys for wheat.

o make a liberal uſe of the ſkims or horſe hoes ning the fallows; and not to plough ſo frequently, caſionally to plough much deeper than what is gene- ne.

To leave the fallows that are laid up for ſpring corn, fully well gripped and water furrowed as if a crop of was in the ground.

To ſow particularly early with winter or ſpring corn, ſe light and hollow bottomed lands, which from abundance of ſtraw, become abnoxious to the blight dew.

To be careful in ſeeding the ground, and to guard rly againſt over covering the ſeed of white ſtraw

crops; to be particularly mindful that the ſeed of the brown ſtraw crops is put to a proper depth in the ground.

13. To relieve the wet gravelly and ſandy loams, of their ſurplus water, by hollow or open drains; and to cultivate them occaſionally with turnips, according to the Scotch two-furrow, or ridge practice—To leave the field well water-furrowed, and with the aid of ſledges to get the crop completely from off the ground before Chriſtmas.

14. In the operation of ploughing, to be particularly cautious in cutting the bottom of the furrow clean; even, and of an uniform depth—To bury every weed by whelming the ſlice or furrow completely over; and to guard as much as poſſible againſt unneceſſary draught, by forming and expoſing a freſh ſurface too frequently, in the preparation for turnips.

15. To purſue the dibbing and the drilling huſbandry in all caſes, where circumſtances will admit, in preference to that of broadcaſt.

16. To forbear the uſe of the horſe hoe amongſt corn; (unleſs the intervals are of an extraordinary width)—To hand hoe with particular caution; and rather among white ſtraw crops, to depend upon the weed hook, than the hoe, for the deſtruction of thiſtles.

17. To diſcontinue the practice of boarding the harveſt men, and to put out to them by the acre, the cutting and inning of the harveſt.

18. To cut wheat with ſome ſap in the ſtraw, rather than ſuffer it to be full ripe before it is reaped—By the former practice the ſample will be much improved, the head corn will be ſaved from ſhedding; and by giving it plenty of field room, it will leave the ſtraw as freely, and be thraſhed with as much eaſe as if it were dead ripe before that it was

ſhorn

orn—By the latter practice a great deal of the prime heat is ſhelled out in harveſting, and the ſample is unqueſtionably left of a very inferior quality.

19. To avoid threſhing wheat upon a clay or brick floor, not only from their want of elaſticity, but from an inſidious damp, that will be contracted, by the grain reducing its weight and eſſential value, from two and an half to five per cent.

20. To ſubject cows to occaſional bleedings upon change of food, or when about one-third gone with calf; and among the ſuckling herds, when the milk gets ſo rich as to produce ſymptoms of ſcowering, or of ſurfeit in the calf; to thin it by feeding the cow with grains; and *vice verſa* to thicken and enrich the milk by giving the cow a proportionable quantity of malt coombs.

21. To weigh with equal candour and judgment, the proven excellencies in the ſeveral breeds of hogs, ſheep, cows, and horſes, and then to ſtock with ſuch a choice as in due conſideration appears beſt adapted to the ſoil, the herbage, and the appropriation of the land.

22. To relieve the wet heavy woodlands of their ſurplus water, in the mode practiſed at Finchingfield; inducing thereby a more healthy timber; and a more valuable undergrowth.

23. To level the ants hills in the freſh marſhes, and to cleanſe out and deepen the partition drains, ſo that without injury to the fences, the water may be run down to a lower level.

24. To form tanks or reſervoirs of rain water for ſupplying the inhabitants of the iſlands, embanked marſhes, and thoſe parts of the county which in dry ſeaſons, labour under

under great inconveniencies and diſtreſs, through the want of ſprings, or wholeſome drinking water.

25. To encloſe the farm yards in the iſlands, and upon all the embanked marſhes; and to keep a proper ſtock of ſtore cattle through the winter; to convert the large quantities of ſtraw that are annually produced from thoſe lands into manure.

26. To reſiſt the monopoly of farms, or the conſolidation of them beyond a certain extent—Say 300l. per annum, heavy land—500l. per annum, light lands.

27. To encourage the eſtabliſhment of box clubs through every pariſh; and upon every occaſion to ſtigmatize as ignominious every ſturdy labourer who ſhall receive aſſiſtance from the pariſh, when he might have been relieved as a member of ſo laudable an inſtitution.

To effect the purpoſes contained in the following propoſitions would certainly contribute very much to excite a general ſpirit of improvement throughout the county, and prove the baſis of its perfect and more univerſal cultivation; but, as this depends entirely upon the will of the legiſlature, it is impoſſible to ſay, how long they may continue to withhold their authority and conſent.

1. To put the occupiers of the county upon a more certain footing with regard to the payment of tythes.

2. To compel the yeoman, or the occupier of his own eſtate, to be as equally aſſeſſed and as fully contributary to the pariſh rates as the tenant farmer.

3. To ſubject perſonal as well as property in lands and houſes to be proportionately aſſeſſed to the pariſh rates.

4. To make ſuch an arrangement in the management of the poor, as may have a tendency to check the further increaſe in the poor's rates.

To

5. To reſtrain from carrying on during hay time and harveſt, ſuch public, civil, and military works, as are not immediately connected with the ſafety and welfare of the nation.

6. To do away the partial burthen of ſupporting frontage nks—To put every level of marſh land expoſed to the ne hazard from the irruption of the ſea, or the overflowing land waters, into diſtinct diſtricts—To make the exnce of their general drainage, and defence againſt ſuch canities to be equally divided, and to have the whole under the gulation and controul of commiſſioners of ſewers.

7. To empower the ſaid commiſſioners of ſewers to lower e mill dams, and the ſtaunches of head water kept up for h ponds, navigable rivers and canals; and further, to ake ſuch regulations touching theſe points, as may effecally conſerve the ſame, without injury to the lands, through hich ſuch ſtreams may neceſſarily paſs.

The apparently incurable evils, under which the further gricultural improvement of the county labours, are

1. The want of a conſtant ſupply of wholeſome water the marſh iſlands, and in moſt of the lands embanked om the ſea; as alſo upon the major part of the tough rong and deep ſtrata of clay, in the higher parts of the ounty.

2. The abſence of clay, chalk, or marl, in the vicinity f the greater part of the light gravelly lands, and *vice erſa*.

3. The want of chalk, marl, or ſilicious matter, within each of the tough ſtrong and compact clays; and laſtly,

4. To the blights and mildews, and to the inſects that rey upon the roots, tender leaves, bloſſoms, and ſeeds of rn and graſſes, are to be added thoſe evils which from the ſame

ſame ſources prove ſo injurious to the growth of oak and other valuable timber.

It is impoſſible to ſtate with the leaſt probable certainty, the extent of individual, and alſo of national benefit, that muſt conſequently flow from a general adoption of the moſt perfect ſyſtem of agricultural management, which the ſcience, the ſoil, the climate of this iſland, would poſſibly admit of: ſuffice it in this place, therefore to ſay, that in the humble apprehenſion of the author of this report, ſuch a general improvement in the agricultural economics of this kingdom, muſt produce an increaſe in its internal reſources that would be immenſe: upon the preſent occaſion, he can only ſtate what appears from the general average table, to be the extent of improvement of which this county is capable, were its common fields and waſtes, under ſuch circumſtances as would admit their being improved to the ſame level of perfection as are the adjacent lands, which however they may be in a more advanced ſtage of profitable cultsvation; are yet by no means ſo productive as they might be made, by a ſuperior management; a truth that is very clearly illuſtrated in the two or three inſtances which occured in the progreſs of the ſurvey. Upon theſe principles then, and according to the data deduced from the journal, and exibited in the general average table; the extent of improvement of which this county is immediately capable (and without further ſkill or improvement in the ſcience of agriculture) will ſtand thus:

A general

general ſtatement of the improvement, which by encloſing and laying into ſeveralty, may be annually made on the preſent rent or value of the open common fields and waſte lands, in this County.

By a reference to the minutes taken on the ſurvey, it appears, that the arable land in about forty pariſhes in the county, lies very much in open common fields; and which, in point of quantity, is found to average about 1,200 acres per pariſh. This amounts in the whole to 48,000 acres; the exceſs whereof in the annual rent or value from encloſure and laying into ſeveralty, would according to the general average table, be 4s. 6d. per acre, and conſequently form an annually increaſed income or revenue of - - - - - - - - - -	10,801	0 0
By encloſing or embanking from the ſea 4,600 acres of ſalt marſh, an acquiſition to that extent would be made to the national territory, and yield to the individual owners annually 15s. 6d. per acre, equal to	3,565	0 0
By encloſing for cultivation 10,370 acres of thicks or foreſt lands, unfit for the growth of oak timber, thereby improving its rent or annual value 12s. 6d. per acre - - - - - - - - - - - - - -	6,481	5 0
By encloſing and laying into ſeveralty 14,237 acres of waſte or common land, thereby increaſing its annual rent or value 11s. 4d. per acre, equals -	5,067	12 8
	25,913	17 8

Excluſive of the improvement that may be made upon the rough and coarſe marſhes and paſture land. The extent of which, not being poſſible to be aſcertained, no account can here be ſtated of the value of their improvement, which however muſt be very conſiderable.

THE Surveyor cannot close this report without expressing in the fullest manner, his warmest acknowledgements to the following gentlemen, who, not only in the most handsome and liberal manner, afforded and procured for him all the assistance, and information in their power, but many of them received and treated him with much attention, politeness and hospitality.

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— BRAMPSTON, ESQ. M.P. ROXWELL,
— CONYERS, ESQ. COPTHALL,
— SPERLING, ESQ. LITTLE MAPLESTED,
— MAJENDIE, ESQ. CASTLE HEDINGHAM,
— YELDHAM, ESQ. SALING GROVE,
— TUFFNAL, ESQ. GREAT WALTHAM,
— HANBURY, ESQ. COGGERSHALL,
— BULL, ESQ. BURSTED,
— WHEELY, ESQ. WHEELY,
— GREGGS, ESQ. MESSING,
— CORCELLIS, ESQ. WIVENHOE,
— SUMNER, ESQ. SOUTH CHURCH,
— SMITH, ESQ. SUTTON,
— COLCHESTER, ESQ. GREAT HOLLAND,
— HANDSON, ESQ. GREAT BROMLEY,
— LEE, ESQ. TOOLSBURY,
— DEN, ESQ. ONGAR,
— DYER, ESQ. CHIPPING ONGAR,
— FISKE, ESQ. RICKLING,
— WALFORD, ESQ. BIRDBROOK,
— BELL, ESQ. LITTLE WAKERING,
— TODD, SEN. ESQ. STIRMER,
— TODD, JUN. ESQ. BIRDBROOK,
— PATTERSON, ESQ. MALDEN,
— GREEN, ESQ. LEXDEN,
— SCALE, ESQ. GREAT BADDOW,
— PAWLETT, ESQ. GREAT BADDOW,

CAPTAIN BAILEY, STAMFORD RIVERS,
THE HON. AND REV. MR. MAYNARD,
THE REV. ABDY ABDY,
THE REV. MR. THURLOW, GOSSFIELD,
THE REV. MR. GRILLION, SAFFRON WALDON,
THE REV. MR. LUGAR, ARDLEIGH,
THE REV. MR. ONELEY, STISTED,
THE REV. MR. HOWLETT, DUNMOW,
THE REV. BATE DUDLEY,
THE REV. ——, TORRINGTON,
THE REV. ——, LATTON,
THE REV. MR. CANNING, ELSENHAM,
THE REV. MR. BISKE, WIDDINGTON,
MR. BURLEIGH, ATTORNEY AT LAW, HAVERILL,
MR. KING, HAVERILL,
MR. BIDDAL, FINCHINGFIELD,
MR. HARRIS, KEDINGTON,
MR. CARTER, SEN. BUMSTED HELION,
MR. CARTER, JUN. RADWINTER,
MR. COCKE, HEMSTED,
MR. ARCHER, SAFFRON WALDEN,
MR. JOHNS, LITTLEBURY,
MR. JOHNS, DUNMOW,
MR. NASH, CHESTERFORD,
MR. CORNWALL, CHISSHILL,
MR. WRIGHT, ELMDON,
MR. KING, LANGLEY,
MR. BRAND, CLAVERING,
MR. HAWKES, BERDEN,
MR. JACKSON, MUCH EASTON,

RODING,

RNARD, LINDSELL,
LLETT, GREAT BARDFIELD,
RNARD, STEBBING,
THE, LITTLE DUNMOW,
OD, BARNSTOW,
TKINSON, FELSTEAD,
VY, WEATHERSFIELD,
RKER, MYALL STAMBOURN,
BROSE, MYALL GREAT MAPLESTED,
VELL, LITTLE MAPLESTED,
YANT, OVINGTON,
EYLIN, TILBURY,
RDY, GREAT YELDHAM,
ER, RIDGEWELL,
——, GREAT YELDHAM,
MS, PENTLOW,
LLOCK, FOXEARTH,
NG, BULLMER,
OOTHY, HALSTED,
EY, MOUNT BURES,
NSTABLE, WORMINGFORD,
Y, DEDHAM,
RDINER, BROMLEY,
NIEL, THORPE,
RTIN, ST. OSYTH,
MAN, WIVENHOE,
OMFIELD, BEARD CHURCH
OPER, LANGENHOE,
—, NORTH OKENDEN,
EEMAN, EAST HORNDEN.
KEN, CHELMSFORD,
ITH, HORNCHURCH
LLS, HAVERING PARK
AB, SHELLY,
TTERTON, WALTHAM ABBEY,
RVEY, MERSEA ISLAND,
CH, LAYER MARNEY,
BROSE, COPTFORD,
YWARD, KELVEDON,
—, WOODHAM WALTER,
ILLIPS, PURLEY,
COOKE, COLCHESTER,
ER, STANAWAY,

Mr. FRANKS, ALTHORNE,
Mr. BAWTREE, SOUTHMINSTER,
Mr. HAMMOND, LATCHINGTON,
Mr. LAMPERELL, RETTENDEN,
Mr. MASON, STOCK,
Mr. DAVY, SOUTH FAMBRIDGE,
Mr. DALE, HAWKEWELL,
Mr. COCKERTON, SUTTON,
Mr. CHALLACE, VANGE,
Mr. ——, WEST TILBURY,
Mr. SADLER, HORSLEY,
Mr. LAY, BOXTED,
Mr. AMBROSE, MISTLEY,
Mr. SALMON, BEAUMONT,
Mr. ——, LITTLE HOLLAND,
Mr. BLITHE, KIRBY,
Mr. HOWES, TORRINGTON,
Mr. BAILEY, EAST DONYLAND
Mr. BRIDGE, THURROCK
Mr. NOKES, UPMINSTER
Mr. BUCK, MOUNTNESSING
Mr. ADDEY WRITTLE,
Mr. TABRAHAM, AVELEY
Mr. FITCHE, BLACKMOOR,
Mr. PERRY, LITTLE LAVER,
Mr. POLLETT, NORTH WEALD,
Mr. ——, SEN. GREAT WIGBOROUGH,
Mr. ——, JUN. LITTLE WIGBOROUGH,
Mr. PATRICK, MARKS TEY,
Mr. FREEMAN, GREAT BRAXTED,
Mr. WOODWARD, FEERING,
Mr. TWEED, SANDON,
Mr. ——, MUNDEN,
Mr. WAYLAND, CRICKSEA,
Mr. PATTERSON, ST. LAWRENCE,
Mr. ——, WOODHAM FERRERS,
Mr. SHANE, HATFIELD PEVERILL,
Mr. BRAND, LANGDON HILLS,
Mr. KEYS, ASHELDON,
Mr. BECKWORTH, PAKELSHAM,
Mr. TABRAHAM, THUNDERSLEY,
Mr. SPITTY, HORNDON,
Mr. COKER, BOLEY.

Nor can he take his leave of the above Gentlemen, or thoſe from whom he derived ſimilar aſſiſtance, and by whom he was equally well received in Cambridgeſhire, without expreſſing much concern, for that preſſure of circumſtances which prevented his more full and complete inveſtigation of the ſubjects of the reſpective ſurveys. In the looſe manner in which he has conſequently been obliged to execute theſe inquiries and to haſten them out of hand, they have coſt him for unavoidable expences only, more than two hundred guineas, over and above the one hundred and twenty-five pounds the Board of Agriculture has allowed for his indemnification of all the expences he has been put to, together with the ſixteen months labour, he has ſo unremittingly beſtowed upon the buſineſs. Laſtly; under the fulleſt conviction of the neceſſity and importance of ſo noble a national inſtitution; and ſeriouſly impreſſed with the extent and value of benefit that muſt reſult from its labours, he takes his leave of the Board of Agriculture; but not without very ſenſibly regretting the peculiar circumſtances of his preſent ſituation, that will no longer allow him to indulge in a purſuit to which he is ſo fondly attached—at the ſame time he wiſhes very reſpectfully to aſſure the Board of Agriculture, no change of circumſtances, can in any wiſe abate that deſire and zeal with which he muſt ever be actuated, to contribute even the ſmalleſt of his very humble efforts towards furthering the truly great, and important objects of the inſtitution.

No. 8, *Arundel Street, Strand,*
March 1, 1795.

APPENDIX.

ing very valuable communication was made to the Surveyor by the H. BATE DUDLEY, *of* BRADWELL, *and is now inſerted with pe of obtaining ſome further obſervations.*

LL, *near the Sea*, is a peninſular pariſh, at the eaſtern extremity of the hundred , on the conflux of the river *Blackwater*, which here falls into the *German Ocean*. ſeveralty about 4,000 acres of upland, which is chiefly in tillage, and 1,500 in rly a moiety of which is under the plough; the other part continues to be grazed. s, in common with thoſe in adjoining pariſhes, are under a commiſſion of ſewers, the management of the ſluices, ſea walls, and the freſh water courſes which paſs . The commiſſioners, in conſequence of a general inundation from the great tide in 1791, raiſed the ſea walls and banks, two feet more in perpendicular height, which ſafe barrier from any ſimilar misfortune. The effects of the ſalt water, where it lay , were not found injurious to the paſturage, nor even the tillage lands, after that e ſouth ſide of the pariſh the ſea retires; and three portions of rich land were em- it, in addition to the glebe in 1786; the completion of which was rewarded by Arts and Sciences with their gold medal of that year. This newly acquired land, ooze, has ſpontaneouſly thrown out the richeſt herbage, in which are found many ſt graſs plants in the botanic ſyſtem. About 150 acres has been gained in *Bradwell*, nple is ſucceſsfully adopting in the neighbouring pariſhes on the coaſt.

he ſoil is various; the uplands are generally a tender, ſandy loam, deep in ſtaple, n almoſt every kind of vegetation. The * marſhes under the plough, though ſtronger

* ſhes from the many old embankments ſtill remaining, have evidently been encloſed from the ſea by cements; and many of them are ſtill divided, as the old rills, and ſea water courſes left them. The two large ſluices on the glebe marſhes, nearer the ſea, on the late embankments, with ſtraight m, has been of great advantage to the whole level by a freer drainage of the freſh waters.

land,

land, are not leſs productive: thoſe in graſs, are fine in herbage, well watered, and will fat an ox expeditiouſly of any weight. The various farms are in ſeveralty, from 600, down to 40 acres each, all well fenced, wooded and watered. The *glebe*, reckoned the largeſt in England, is about 400 acres. Throughout this pariſh the fineſt *white wheats* are grown, ſome of which, even the preſent year, weighed 65lb. the Wincheſter buſhel. The rentals have increaſed within theſe ten years from 12s. to 20s. per acre, which is now the average price on new tenures; ſo general is the ſpirit of cultivation, that there are ſcarcely twenty ſquare yards of common, or waſte lands throughout the pariſh.

CROPS.—All kinds of corn are abundantly grown here; but leſs of barley than any other, it being found to run ſo much to ſtraw, as to produce the grain of a lean, and coarſe quality. *Rape ſeed*, *coriander*, *muſtards*, white and brown, and *carraway*, are likewiſe grown occaſionally to a conſiderable amount.

The beſt courſe of huſbandry is as follows:

1 Fallow for oats (if tender land with turnips.)
2 Clover.
3 Wheat.
4 Beans or Peas.

And if the land is in good heart, and has been cleanly hoed, another crop of wheat is ſometimes taken before the next fallow. This ſyſtem is not much departed from, except towards the end of a leaſe. Where the ſoil appears tired with the repetition of *clovers*, which in that caſe die off in the ſpring, *tares* are frequently ſubſtituted in their room, and the change is found advantageous beyond the ſucceeding crop of wheat.

The average produce is	Wheat	32	buſhels
	Oats	48	buſhels
	Beans	32	buſhels
	Peas	36	buſhels
	Coleſeed	34	buſhels per acre.

The lands in high cultivation will yield one-fourth more—The marſh corn, though not ſo bulky on the ground, is generally better ſet, and weighs heavier.

HOPS have lately been introduced on the glebe, with a proſpect of conſiderable ſucceſs; the quantity and quality grown laſt year on twelve acres, refute the general opinion, that the ſea air is detrimental to this plant.

MANURE.—Chalk Rubbish brought in veſſels from the Kentiſh cliffs has been the principal [illegible] rather *alterativ* [illegible] the pl[illegible] here [illegible] e in [illegible] norially. Horſe, and other [illegible] thin a few ye[illegible] were e[illegible] d th[illegible] re not carted on the land.—

Eight

gon loads of chalk, value 11s. a load, without cartage, are a good dreſſing per ac
air huſbandry will be productive twenty years.

verſal opinion, that land once chalked would never receive benefit from rubbiſh a ſecon
ow found fallacious by daily experience; but the ſtiff-ſoiled old chalked lands, requir
cond dreſſing ſhould be previouſly mixed with bank or other earth. No *marle*, or under
that kind, has been diſcovered in that pariſh. *Coleſeed*, *buck-wheat*, and even *clover*
turned in, upon old ploughed lands, and much benefit has been derived from thei
fermentation.

VEMENTS.—*Hollow-draining* has not been long practiſed here, but is now becomin
he ditches are cut a rod aſunder, from twenty to twenty-four inches deep, and well fille
and ſtraw at from four ſhillings, to five ſhillings per ſcore rods.—*Sheepfolding* has like
recently introduced, and is found highly beneficial to the paſturage, as well as ploughe
aking down the numerous pollard trees and lofty hedges throughout all the road ſide
highway ſtatutes in this pariſh, has ſo apparently improved the adjoining lands, b
n open to the ſun, and the free circulation of air, that the mode is generally adopte
he hundred, where the fences are now handſomely clipped low by choice, which were at fi
n by compulſion.—*Turnips* increaſe in proportion to the extent of land-ditching.—Th
abbage is partially introduced for ſpring feed, and anſwers well, except where an in
rop of Lent corn is expected to ſucceed; this failing as a natural conſequence, confirm
l prejudice that cabbages are a more exhauſting crop than is truly the fact. *Coleſeed* fe
g much, from the general experience, that it leaves the beſt fallowed lands in an unfavo
for *oats* and *clover*, and is of courſe prejudicial to the next winter crop in ſucceſſion. A
ement pretty general in its operation, may be fairly reckoned the ADVANCE OF RENT
r to induſtrious emulation, from which the tenantry and landlords evidently derive
vantage.

CT.—The expenſive management of *cart horſes* here, in common with the whole di
ſerious defect that demands immediate reformation. The ploughing, which is done b
horſes and one man with reins, is certainly as ſoundly and adroitly executed, as in an
e kingdom; but the great expenditure of hay and oats, even at the dead ſeaſon
is a ſerious drawback from other advantages. Independently of the ordinary ſaving
luction of *oxen* on farms, where grazing and tillage are ſo generally blended, woul
emely productive: but the difficulty of weaning the prejudices of a country from
, however erroneous, and the riſque of throwing an extenſive buſineſs out of its
rſe, deter thoſe who experience the loſs, from attempting a reformation. Havi
oxen from the yoke, to graze on the ſpot, without the loſs attendant on overdriv
uld give a ſaving of full twenty-five per cent. in addtion to the advantages derived fr
ght.

STOC

STOCK:—But few horned cattle are bred here. The general ſtock conſiſts of *Fifeſhire*, *Weſt Highland*, and *Galloway* Scots, *North* and *South Wales* runts, and ſometimes a lot of ſhort-horned *Yorkſhire* beaſts, and of late ſome *Iriſh* ſteers. Theſe are fatted off within the year; and thoſe of ſuperior quality and condition, within from ſix to nine months.—Formerly a great number of calves were fatted for the London market; but this has declined much within the laſt ten years.—The *Norfolk ſheep* were lately the principal flocks: but they are now ſucceeded by the *Southdown* breed, which are found to be a hardier and every way a more profitable race: The ſmaller farmers keep the *Herefordſhire* breed, which are much improved by a croſs of the *Wiltſhire* tups.—A conſiderable number of the *Shropſhire* and *Berkſhire hogs* are grazed here on clovers for the diſtillers, which for the laſt two or three years have paid well.—Some uſeful *cart colts* are bred on the marſhes, but theſe are only ſufficient for the teams of the breeders.

There are two *decoys* for the different ſpecies of wild fowl, and breeding ſhores for *oyſters*: but any detail of their management and terraqueous produce, would here be ſuperfluous.

WORKMANSHIP.—The labour is principally by the piece, and is generally well executed: the wages are adequate to the price of proviſions.—Ploughmen 10l. per ann. to be in the houſe; or 10s. per week living out, each having their harveſt month made up five guineas. Day-labour is 1s. 6d. in winter and 2od. in ſummer without beer; the hours from ſix to ſix in ſummer, and from ſeven until dark in winter.

The *tythes* are chiefly under compoſition to the ſeveral farmers. The number of houſes is about 10c, containing ſomewhat more than 500 inhabitants. A *workhouſe* has been lately eſtabliſhed, which is managed, ſo as to leſſen rates, while it affords additional comforts to the parochial poor. A uſeful *ſchool* was eſtabliſhed by a late rector, for the education of the children of inhabitants endowed with land in *Mile-end* value 60l. per annum

The pariſh has increaſed much in population within the laſt ſeven years, ſo that it depends no longer on the caſual viſitation of ſtrange huſbandmen to get in its harveſt. The *roads* from the worſt, may now be claſſed amongſt the beſt in the kingdom.

QUERIES

PROPOSED BY THE

ARD OF AGRICULTURE.

) BE ANSWERED BY INTELLIGENT FARMERS.

A T is the nature of the ſoil and climate in your neighbourhood?

ner in which the land is occupied, and whether the farms, are, in general, ſmall o

ner in which the land is employed, whether in paſture, in huſbandry, or a mixtu
?

nre, what graſſes are cultivated? what ſpecies of ſtock is kept? Whether the breed
mproved, or whether new breeds ought to be tried.

any of the land is watered, and whether any conſiderable extent of ground i
of that improvement?

nd is employed in huſbandry, what are the grains principally cultivated?

the rotation of crops? and in particular whether green crops, as turnips, clover
cultivated, and how they are found to anſwer?

fallowing is practiſed or otherwiſe?

anures are made uſe of, and whether particular attention is paid to the making o
lls?

the uſual ſorts of ploughs, carts, and other implements of huſbandry?

oxen or horſes are made uſe of?

the uſual ſeed time and harveſt?

the land is incloſed or in open fields?

vantages have been found to reſult from incloſing land, in regard to the increaſe o
uantity or qualities of produce—improvement of ſtock, &c?

15. What is the ſize and nature of the encloſures?

16. Whether incloſures have increaſed or decreaſed population?

17. Whether there are any common fields, and whether any diviſion of them is propoſed?

18. What is the extent of waſte lands, and in what manner are they at preſent depaſtured?

19. Of what improvement are thoſe waſte lands moſt capable, whether by being planted, converted into arable, or into paſture land, or by correcting the preſent mode of commonage?

20. What is the rate of wages, and price of labour, by the day or the piece, and what are the hours at which labour commences and ceaſes, at the different ſeaſons?

21. Whether proper attention is paid to the draining of land, particularly the fenny part of it, and what ſorts of drains are commonly made uſe of?

22. Whether paring and burning is practiſed, and how it is managed and found to anſwer?

23. Whether the country is well wooded, and under what ſyſtem are the woodlands kept?

24. What is the price of proviſions, and whether the price is likely to be ſteady, to riſe, or to fall?

25. What is the ſtate of the roads both public and parochial, whether they are in good order, and whether any improvements in regard to making roads have been diſcovered?

26. What is the ſtate of farm houſes and offices, whether in general they are well ſituated and properly conſtructed?

27. What is the nature of the leaſes commonly granted, and what are found to be the moſt advantageous covenants between the landlord and tenant, for the improvement of the ground?

28. To what extent have commerce or manufactures been carried on in the diſtrict, and have they had either good or bad effects on its agriculture?

29. Are there any practices in agriculture within the county that could be of ſervice to other counties?

30. Are there any ſocieties inſtituted in the County for the Improvement of Agriculture?

31. Whether the people ſeem to have a turn for improvement, or how ſuch a ſpirit could beſt be excited?

32. What improvements can be ſuggeſted either in regard to the ſtock or the huſbandry of the County?

33. Are there any obſtac[illegible] r [illegible]y beſt be removed?

ERS to the QUERIES of the BOARD of AGRICULTURE

Mr. VANCOUVER *from the Rev.* C. ONLEY, *Stifted, Eſſex.*

E climate good, many ſmall rivulets running into the Pant, alias Blackwater, at t
of Stifted and Pattiswick, through about fifty acres of meadow ground, ſubject

s from 50l. to 200l. per annum, chiefly nearer to, and ſome even beneath the form
t from 10s. to 15s. per acre, an average of 12s. per annum, is as much, as wi
ial charges, the ſoil will to an improving tenant admit.
entirely in the beſt mode of comman huſbandry.
y any natural upland paſture. No ſpecies of ſtock bred; ſheep, ewes in lamb,
wethers, or a few bullocks annually bought, fattened and ſold; ſmall dairies, of
lar breed.
tering unknown, but ſome land probably capable of it.
uſual grain and pulſe, at the average rate of 2½ quarters of wheat, 4½ of barley,
, 3 of beans, and 2½ of peas per acre per annum.
tation is fallow, barley, clover, wheat, then according to the nature of the ſoil (whi
aries from field to field, ſome clay, much moiſt brick earth, light wet loam, and ſo
ay, according to the quantity of ſtock eſſential to the annual conſumption for
(for winter grazing merely never anſwers) beans, peas, winter tares, or turnips, v
portions proper for the latter, as they can neither be fed upon, nor carted off, with
ice to the future crop; wheat and barley are the ſtaple corn, as tares and clover
etable crops; oats, beans and peas, and turnips, occaſional ones.
ng is thought eſſential, eſpecially for barley, by leaſe is required after two crops
and one either of pulſe or herbage, under a tenant of capital intelligence, induſt
egrity. The fallow by the alternation of an hoeing pulſe with a feeding vegetab
corn crop, might, with perfect juſtice to the ſoil, and ſecurity to the landlord, h
ger deferred.
no navigable communication with any ſea port for chalk or lime, theſe come too d
general or material uſe, though neceſſary as manure, which is almoſt entirely what
raiſed by the ſtock, kept chiefly in winter, mixed occaſionally with earth on t
f the field. This a motive for fallowing, as remedying the want of manure, a
ing, what *hand-hoing* will not do, the weeds raiſed by ſuch manure.
Norfolk wheel and foot plough with only two horſes; four horſes ſufficient in
culture, allowing ten acres for natural paſture, for ninety acres in the farm. Lig
-wheel waggons; ſmall low, as well as large carts, with wheels of ſix to nine inc
h; a double breaſted plough to earth up.
n uſed in ſuch farms, and ſmall incloſures probably not eligible.

12. Wheat in September; barley, beans and peas in February; oats, March; begin to be ſown and to be reaped and mown in Auguſt.
13. Very old incloſure, ſo much ſo, as now to require enlargement.
14. It is conjectured, that blight and ſmut are increaſed by want of air.
15. From ſix to twenty acres, more nearer the former, ſurrounded with trees.
16. The population always conſiderable in part, perhaps from this.
17. None.
18. In Pattiſwick a fine down common, under the manorial right of the Biſhop of London, of about 100 acres.
19. Scandouſly abuſed by the adjoining farmers laying dung, and breaking up the turf every where to mix with it, and conſequently a nice farm, or fine ſheep paſture, to the prejudice of the poor, who have in general right of herbage, groſsly plundered and deſtroyed.
20. A *good* labourer gains at leaſt 8s. per week, the year round, beer included, more if working as much is frequently done, when convenient on both ſides, by the piece; this varies as to the depth, breadth, or quantity. Land-ditching, a furrow ploughed, then two ſpade deep, one ſpade with the ſmall land ditch-ſpade, cleanſed at this bottom with the ſcoop, filled with ſtraw and wood; levelled at 3s. 6d. per ſcore rods; ditching four feet wide, three feet deep, and hedging it 1s. 2d. per rod, beer included. 2s. 6d. per acre mowing good graſs. Barley 2s. oats 1s. 6d. beans 5s. 6d. peas 5s. wheat 6s. haulming wheat ſtubble 2s. 6d. hoeing by hand beans twice 9s. peas, if twice 7s. wheat once 5s. turnips twice 7s. *My* conſtant labourer at 8s. per week, excluſive of houſe and garden, and ſome trifling benefit with a wife, who, when ſpinning can be got, and at a tolerable rate, may earn 4d. per day, an eldeſt girl 3d. a boy, occaſionally under his father 4d. and three more, too young for any earnings, coſt him in maintenance 10s. per week, at the loweſt.
21. Draining, as mentioned above, here eſſential and well underſtood.
22. Paring and burning totally unknown.
23. Numerous woods, though gradually leſſened, when well attended to, in griping, ditching, and planting aſhes, and the underwood thus running to hop poles, pay clear at twelve or fourteen years growth, from 7s. to 10s. per acre per ann. and in ſome places 14s. the timber therefore, in them in general a prejudice: It is far from growing very large, forty feet, a well grown old tree, top and bark included, the buyer falling, it ſells at 2s. per foot.
24. The beſt mutton, pork, veal, lamb, 5d. per lb. beef 4½d. per lb. inferior in quality and joints, ſomewhat leſs; butter 9d. per lb. cheeſe 5d. per lb. pickled pork 7d. per lb. not any proſpect of thoſe high prices lowering: good bread, the fineſt flour and pollard bran taken out, ſcarcely ever at 1d. per lb. the poor eſteem this, though dear, heartieſt, and is cheapeſt; but the heartieſt and cheapeſt bread, and what, to enforce its uſe, ſhould probably be alone aſſized, is from wheat *excellently* ground, and *nothing* taken out; this might be ſold at 1d. per lb.
25. The principal roads in each pariſh very tolerable; might be hereabouts ſo very good, as nearly to ſpare turnpikes, if the magiſtrates would but enforce the laws for the ditches to be
owered, the heſe, adjoining each principal
emoved: B trangely neglectful.

26. Many

of the farm houſes were old manſions too large, and encumbered with buildings, and being laid to the principal farm, they are frequently not well ſituated, nor conſtructed atively with a modern planned farm houſe.

t leaſes run from fourteen to twenty-one years, and allow two corn crops. 1ſt, Of pulſe or turnips, and 2dly, Of paſturage, and then a fallow; in addition to theſe, tares, ſown immediately after wheat, is not regarded as any interfering crop, if in ed off. Repairs beſt done by the tenant, the landlord allowing materials.

baize manufactory, for ſome years, and particularly of late, declining, has been very tabliſhed; from its neceſſary conſequence, a large population muſt have early contri- here to agriculture, but now has equally contributed to its burthens, by an enormous te, which ſcarcely, in any tolerable degree, affords food or cloathing for this number. d to pariſhes by the act of ſettlement, where employment cannot be had; and through of granting parochial certificates, incapable, when willing to migrate, where their s wanted, and would afford them the common comforts of life. Could the act of th, which requires each pariſh to provide materials for the conſtant employment of its been enforced, induſtry would have its due maintenance: but this ſeems only ble in hundreds, or diſtricts, or large towns; in which the capital raiſed, the number ed, and the economy and ſkill of the ſuperintendence applied, can render ſuch a a manufactory within itſelf; and liberate the individuals compoſing it, from the ctuating trade, partial treatment, unequal payment, and arbitrary power they muſt to when diſperſed into ſeparate ſmall pariſhes, and dependent on the neighbouring turers. The adding farms together, in order to leſſen the expence of repairs on us buildings, and to ſecure rent, with probably a juſt view, from the larger capital of greater improvement, has certainly here contributed *ſomewhat* to a more dependent ince in ſuch ſmall buſineſs (a motive and ſort of reward for parſimony, to ſave enough ge in) the family could not apply to the pariſh without ruin. It would ſtruggle e to the utmoſt; every child would be domeſtically employed, and thus earn its bread, and prepare for its future hopes of becoming a ſkilful farming ſervant; and thus ing in its parent's ſteady track, another little farmer, and the reputable independent or miſtreſs of an induſtrious family. The number of the people has not, on this been in the leaſt probably reduced, but their morals have been greatly injured; the of the cottagers being early trained to bad language, every petty theft, and totally of thoſe examples that might habituate them to any duty of neatneſs and decency, e of morality and religion. A national revenue too raiſed on the vices of the populace, ſhops and petty alehouſes, removes the little chance, by their temptations, of any ny or decorum. The neceſſity of labour may be promoted by the expenſive cravings : but then induſtry is purchaſed at a rate deſperate to the individual, and dangerous ommunity.

actice in agriculture here being extremely old, have nothing *particular* to recommend other counties.

cultural ſociety has very lately been eſtabliſhed.

31. Tolerably

31. Tolerably thriving under the old mode of culture, they are not eager after improvements, but not obſtinate againſt them.

32. There does not ſeem to be any county ſtock of any ſpecies of cattle; all ſuppoſed to be better purchaſed from other counties. Whatever may be wanted in their husbandry will be ſuggeſted beſt by gentlemen uſing thoſe inſtruments, particularly ſhims and ſcuffles, which are not too complicated for *common uſe*, and which may leſſen the neceſſity or expence of fallowing.

33. No other obſtacles than may ariſe from the reſtraint of leaſes, the nature of copyhold and leaſehold tenures, and the very fluctuating burthen even of compounded tythes. The utmoſt freedom in the tenure of their land is the only mode of encouraging a free nation to be good husbandmen.

34. The beſt mode of feeding horſes is by mowing clover, ray graſs, and eſpecially tares; the winter, mixed with rye; the ſpring, tares, with oats, and feeding in the ſtable, or open yard, with racks, or cribs, at 2s. 6d. per horſe per week: it is conjectured, an acre thus uſed, amounts to 5l. and the manure thus collected, may equal the mowing and carting. In winter, cut chaff, two parts ſtraw, and one of hay, either natural, or clover, or tare, with a few oats, is one of the beſt. Carrots admirable; but not here to be got reaſonable enough, and requiring, on this ſoil, too much delicacy and expence of culture, for farmers to venture on raiſing them. Potatoes have never been raiſed here on a farming principle; cabbages very few; turnips the ſtaple winter provender.

35. The number of aſſeſſed houſes in Stiſted is thirty-two; average of inhabitants 550; varying extremely as farms change their occupying families; poor's rates, at the rack rent, of 4s. 6d. per pound; compounded tythes lately raiſed from leſs than 200l. to 430l. per ann. The farmers totally unaccuſtomed to the payment of tythes in kind will here ſubmit to nearly any, the moſt oppreſſing compoſition, whereas by ſubmitting to it, they deprive themſelves and landlords, of a fair counterpoiſe to this dead weight on huſbandry; to ſome juſt reſtitution on this Engliſh *taillé* in the means of ſaddling the tythes on a rack rent proportion, with a full ſhare of the land-tax, poor, and other rates in Stiſted; theſe would have amounted on the tythes and glebe, to full 200l. per ann. The number of aſſeſſed houſes in Pattiſwick is 10; of inhabitants 220. Tythes generouſly compounded. Without ome *permanent* compoſition of tythes, not at all difficult, unleſs in the *political* alliance, the church ought to control the ſtate, all attempts at great and general agricultural improvements, are worſe than nugatory. Within theſe few weeks, three or four ſhims, to fix on to the blocks of the wheel plough, have been uſed in this neighbourhood, for cleanſing bean and pea etches, done by hand-hoeing at 7s. 6d. per acre. They anſwer thus on *ploughed fallows*, but our ſoil ſo hardens in dry weather, and ſo quickly runs foul with ſtrong weeds, (unleſs uſed *inſtantly*, that peas and beans are carted) as to render this uſeful inſtrument, on the preſent trials, ineffectual. A Norfolk roll with projecting cylinders, to draw drills for ſowing wheat is going to be tried; not likely to anſwer on our ſoil: dibbling wheat certainly would on ſome of it, as Cook's drill has in a very few ſpots; but there is a notion here that thin ſowing promotes the mildew.

BSERVATIONS on Mr. VANCOUVER's QUERIES.

By the Rev. Z. BISKE, *of Widdington, Eſſex.*

OSTLY a clay, with ſmall tracts of gravel and chalk.

y by tenants—Farms vary much in ſize—from 40 to 350 acres.

ture of both, though the paſture, which is in general in itſelf poor, and beſides litt
ed to, bears but a ſmall proportion to the land employed in huſbandry: paſtures m
th on an average 16s. per acre; arable incloſed 14s. arable open field 10s.

ittle ſaintfoin.—Flocks of the mixed Hertfordſhire and Weſtern breed.—Wool, t
object with the farmers.—Few or no ſheep fattened.—Mr. Chiſwell has a flock
lks, which as he has much ornamental ground laid down in paſture (though it ſwa
differently, being moſtly on a clay ſoil) anſwers well.—Cows on the ſmaller far
Welſh; on the larger, middle ſized Derbyſhires.—Not famous.—Dairying moſt
ed. Cows cannot be computed on an average to yield a neat profit of 1 belo
han 4l. 10. per annum.—No peculiar diſeaſes.

vatered, and but ſmall extent capable of that improvement.

barley, peas and oats, mixed and clean, with ſome little rye.

oduce ſhould be computed on a term of three years: the ſyſtem of farming be
ere confined by reaſon of the open field, to a conſtant unvaried ſucceſſion of two cr
fallow, fore crop, wheat or barley; moſtly alternate every three years. Prod
from two to three quarers per acre; barley three to four; etch crop, genera
peas and oats, an uncertain crop: average produce about three quarters per ac
etimes clean peas or clean oats, then fallow, and ſo on. Turnips, clover, tares, mu
y the flock maſters, with ſome little coleſeed and rye, though indeed tares are yea
ng more univerſally general; all anſwers well with good huſbandry.

ed in the foregoing.

and earth, ſeparately or turned over together, folding by the flock owners: act
s very attentive.

he ſame as in the neighbourhood of London.

without exception.

per acre on the fallows two buſhels one peck; on what little clover lands are ſo
uſhels, ſown at Michaelmas, or as ſoon after as poſſible; barley four buſhels, midd
rch; peas two buſhels as ſoon after Chriſtmas as the land will work; then two an
ſhels of black oats, harrowed in the beginning of March; clover ſeed from twel
teen pounds: harveſt beginning of Auguſt.

den moſtly encloſed; in the other pariſhes larger proportions of open field lands.

oſures here taken place.

om two to twenty acres.

ſions propoſed.

ttle waſte land.

ng per day and beer; 14d. without; labour per grate, varies; land ditching at 1½
. per rod; hedging and ditching one ſpit dry 3d. per rod.

ttention paid in the heavy lands to land ditching, the greateſt improvement of whic
e yet found capable; land ditches drawn generally a rod aſunder, moſtly plough

o

out deep with a common plough and three horſes; and one ſpit only dug with the narrow or tongue ſpade, and then filled up with haulm or ſtraw only, wood being a very ſcarce and expenſive article in an open field country: but theſe are very liable to be trod in by the horſes in ploughing, and conſequently frequently blown; this done at 1s. per rod, will laſt in ſound land fifteen or ſixteen years. Soundeſt mode to plough and dig two ſpits, and fill with wood, ſtraw, or haulm; this done at 2d. per rod; depth from ſurface about twenty inches, and will laſt from twenty to twenty-five years in ſound land.

22. Nothing of the kind practiſed.

23. Woods well attended to; quantity ſmall; cut at twelve years growth, worth at the ſtub about 8l. per acre; conſiſt of aſh, ſallow, hornbeam, hazel, and thorn.

25. Generally getting into good order.

26. Moſtly well ſituated with regard to the encloſures. Common field lands very inconveniently diſpoſed, frequently in very ſmall pieces and at great diſtances. Houſes chiefly built of lath and plaiſter. Great number of *outbuildings*, every farmer *anxiouſly eager to get all his corn houſed.*

27. Generally for the term of twenty-one years, though leaſes are by no means ſo frequent as formerly, and daily becoming leſs ſo.

28. No commerce or manufactures.

30. One at Chelmsford.

31. Active farmers, much ſpirit for improvement; that is, land ditching, manuring, and fallowing well.

33. *Common field lands very great obſtacles to improvement*, by reaſon of their uniform confined mode of huſbandry, be the condition or quality of the ſeveral lands what they will. Theſe pernicious effects too likewiſe, operate greatly on the encloſures, unavoidably ſubjecting them in a great degree to the ſame ſyſtem. In the commons, no graſſes or green crops as turnips or tares can be ſown, and conſequently no ſtock kept (at leaſt in very few inſtances, and there in ſmall degrees) except by the occupiers of the manor farms, they claiming and exerciſing every where over them, to the excluſion of all others, their rights of ſheep-walk, over-running every thing, doing thereby much injury to their neighbours, (particularly with their dry flocks, which are driven about by a boy all ſummer long, to ſhift as they can) and little proportionate good to themſelves; the ſmall occupiers being thereby prevented varying their mode of cropping, and the latter, by the large proviſion of turnips, &c. required in winter and ſpring, in this country, much injuring themſelves in their ſubſequent crops of barley. The commons then affording little or no ſuſtenance. The ſmallneſs too of the pieces, conſiſting frequently of two, three, four, five roods, and ſo on, preventing in many inſtances, attempts at draining; and their aukward diſtance and diſpoſition, conſiderably increaſing the expence of manure, attended with much loſs of time, are very conſiderable obſtacles to improvements.

34. The tythes of Newport and Wenden in lay hands are taken in kind. The other pariſhes compounded for on an average at about 3s. per acre. Riſe within theſe twenty years does not appear to have much exceeded 6d. per acre.

ies from 2s. ts. Population is certainly

all the

ERS to the QUERIES propoſed by the *Board of Agricultur*

To Mr. VANCOUVER,

they apply to the Neighbourhood and Pariſh of Boreham in Eſſex.

ſoil of this neighbourhood is very variable; gravel, ſand, loam, and clay, bein
nes to be found within 100 yards of each other.

nds are occupied in farms of all ſizes from 10 or 12 to 300 or 400 acres.

e chiefly employed in huſbandry; many of our farms having only a cloſe or two
adjoining to the farm-yard, for the convenience of the cattle, that are wintered
n-door.

nds being chiefly arable, there is not much ſtock kept more than draught horſe
three or four cows for ſuckling, and the uſe of the family, and a few ſheep to pic
m the fallows, under the hedge-rows, that which would otherwiſe be loſt: but littl
herefore is bred, and of the little our farmers do rear, they are wretchedly inattentiv
breed: in ſhort, chief of the ſtock, whether horſes, cows, or ſheep, are bought
who bring them to our markets from diſtant counties. The farmers are therefor
to buy ſuch as coſt them leaſt money, ſo that their lands exhibit a bad ſample
all kinds.

obſervation relates to the generality of middle ſized farms, without any meadow
to them: not but there are farms which have the advantage of conſiderable por
meadow land by the ſides of our rivers and rivulets, and on thoſe lands a large
ion of ſtock is kept, and of a better quality.

g land is not at all practiſed or underſtood here, though we have ſome grounds capa
hat improvement.

barley and oats, are the grains principally cultivated, though peas and beans, an
ttle rapeſeed, are occaſionally ſown.

eral rotation of crops (on ſuch lands however as are light enough for the purpoſe)
turnips, for which a very clean fallow is made, and the land manured; 2dly, barle
; 3dly, clover; 4thly, wheat, after which, when a farmer is about quitting hi
r towards the expiration of his leaſe, he will take another crop of oats. And we ar
to think that this mode of cultivation is the moſt advantageous.

ſes of this country, not admitting more than two crops of grain to be taken ſucces
he farmer is compelled to make a fallow every third year; but where the foregoing
of crops is attended to, he may be ſaid to fallow his land every other year, for th

clover crop (or where that fails, a crop of tares) by the cuſtom of the country is dee
fallow, as is alſo a crop of peas or beans, provided they are twice well and ſeaſonably h
the courſe of the ſummer.

4. Various manures are partially uſed; but in general the farmers depend chiefly on that
ariſes from their own lands: the dung from the farm yard therefore is carted out i
ſpring, which is carefully turned over and mixed with ſoil, wherever it can be ſpare
the ſides of lanes or roads, or from the ſkirts of the encloſures; and ſometimes a port
lime, chalk or rubbiſh, is added, where it can eaſily be obtained: but to the pooreſt
light lands, nothing is ſo great an improvement as clay or marl, which is generally l
at the rate of about ſixty loads to an acre; but on land particularly light, and wher
buſineſs is intended to be done very effectually, eighty loads per acre is frequently laid,
is a dreſſing of fifteen buſhels to every ſquare rod, ſuppoſing our dung carts to hold
buſhels. The clay is dug, the carts filled, and the clay ſpread on the land, at abo
ſhillings for every twenty loads: this, as well as being an effectual and cheap improve
is alſo a laſting one, as the good effects of it, are experienced twelve, fifteen, and ſom
almoſt twenty years afterwards.

5. The foot-plough is here uſed more than the wheel-plough, as being cheaper, and
repaired; which with the waggons and dung carts, with deep buck and upright ſides
harrows and rolls of various conſtructions, are the uſual implements of huſbandry.

6. Oxen are very rarely uſed here for draught.

7. Barley ſeed time (if the weather permits) commences early in February, and it is freq
the middle of April before the oats are all ſown; for our farmers (for the ſake of
more ſeed) are very apt to let their turnips, coleſeed, or cabbages, remain too long i
ground. Wheat is ſown from the middle of September to the middle of Nove
Harveſt frequently commences the middle of July, and ſometimes is not finiſhed t
firſt or ſecond week in September.

8. Our lands are all encloſed, and have been from time immemorial.

9. And our encloſures are of all ſizes from two to thirty acres.

10. There is ſcarcely any waſte land in this pariſh.

11. The price of labour is 1s. 6d. per day of twelve hours, from ſix in the morning to ſix a
or in winter, as long as it is light; but the chief of the work is done by the piece, wh
will admit of being let; but the prices of work vary ſo much, according to ſitu
ſoil, ſeaſon, and other circumſtances, that it is impoſſible to ſtate particulars of all ki
work. Corn is generally cut, and ſometimes even houſed per acre; it is threſhe
quarter; wheat at 2s. 6d. barley about 1s. 6d. or 1s. 8d. and oats 1s. 2d. per quarter. F
is done by the rod. Land-ditching (or under-ditching) in the uſual mode, is done at

ery
ion, are p..

it deeper, and r
6d. per ſcore. T

d at 1s. 6d. per lot of fifty feet. Oak timber is ſtripped and felled at about 21s. per bark, which conſiſts of twenty-five fathom, or fifty yards; the coat of bark (as it is being ſet thes rinds thick, and well capped to ſecure it from wet.

ditching (or as it is here called land-ditching) is very much practiſed, and with great , there being no part of huſbandry from which our lands receive greater benefit: it is not uncommon for a farmer to extend the practice over almoſt the whole of his The ditches, when cut, are filled very differently, as the farmer has opportunity ing materials: ſometimes they are filled with ſtraw, or haulm only, but oftener with and ſtraw: green broom is much ſought after for that purpoſe, and the lops of elm ls are much eſteemed. Straw twiſted into a thick kind of rope has been uſed for the e in ſome parts of this county, and it is ſaid with ſucceſs.

and burning is ſcarcely ever practiſed here.

eighbourhood is plentifully wooded. The woodlands, which are generally kept in the of the proprietors, are for the moſt part cut at fifteen, ſixteen, or ſeventeen years h, and are more or leſs valuable, according to the quantity of hop poles they produce, is the chief article worth attention, as fire wood is very cheap: owing to which, rable portions of woodlands are cleared annually, and brought under the plough.

from the metropolis, but little more than thirty miles; the price of proviſions is uently high, and depends in a great meaſure on the London markets.

oads, both public and private, are tolerably good, though with the advantages of nt materials upon the ſpot, they might be kept in excellent order, were the inſtruc- aid down in the Highway Act, fully attended to and complied with.

ate of farm houſes and the offices, depend ſo much on the attention, the purſe and the e, both of the proprietor and occupier, that it is difficult to anſwer this query. There ny farm houſes with their out-buildings, which are properly ſituated, and well con- d: but here property is diſtributed in a variety of ſmall portions, and the buildings on of thoſe little farms are in a moſt forlorn ſtate.

caſes commonly granted, contain ſuch a variety of covenants, that it is difficult to rate them: the chief aim of them however is to prevent the tenant exhauſting the by over-cropping, or ſuffering the buildings to run to ruin. They point out his mode ming, admitting him to ſow only half of the arable land with grain in the ſame ſeaſon, ing a fourth of it to be laid down with clover, or other artificial graſſes, and com- g him to make a fallow of the remaining fourth part, great part of which, if light lands, s with turnips or coleſeed for feed; and if ſtrong and heavy, he lays up in October, ovember, for receiving his barley in the enſuing ſpring; for wheat is not ſown upon llows in general. Penalties are annexed to mowing twice in the ſame ſeaſon, taking

 a third

a third ſucceſſive crop of corn, or breaking up any part of the ſmall ſhare of paſture which uſually falls to the lot of farms in general. Many leaſes do not admit of rape o ſeed being grown, except for feed, more eſpecially within the four or five laſt years of th At [the time of granting a leaſe, the proprietor generally takes care to have the b put into proper repair; after which the tenant is bound to keep them ſo, and at the the leaſe to leave them in tenantable repair, being allowed rough timber on the pr with brick, tile and lime, for ſo doing.

There is no manufacture eſtabliſhed near this place; there is however a little yarn ſp the coarſe woollens manufactured in different parts of the county by a few of the wom children, but the generality of the poor will not condeſcend to the employment.

A part of the huſbandry practiſed in this county might certainly be introduced with gre vantage into various other parts of the kingdom, where they ſtand much in need of im ment. To be inſtructed in the mode of ploughing here practiſed would ſurely be utility in ſome of our midland counties; for inſtead of employing four, five, or even ſix at length, with a miſerable, ill-ſhaped, unwieldy plough at their heels, and two n attend them, the farmer would find his advantage, if he could be brought to do th work with one man, a plough on a better conſtruction, and two or at moſt horſes abreaſt. Poſſibly ſome remarkably heavy ſtiff lands, may in wet ſeaſons, requ farmer to work his horſes at length, in order that the land, after it is raiſed, may trampled upon more than is neceſſary; but in ſome of the midland counties this m ploughing is indiſcriminately uſed, where the land is even lighter and eaſier to plough a large tract of this county, in the raiſing of which a greater power than that of horſes abreaſt is ſeldom, if ever, exerted. Were a man to be ſeen hoeing his c wheat in the ſpring, he would in many counties be conſidered as a madman, and yet he very commonly practiſed, and found, under certain circumſtances, to anſwer excee well. A better and more cleanly way of preparing land for turnips, and alſo a more ac mode of ſetting out the plants in hoeing, ſeems requiſite in many parts of the kingdo is not much more than ten years ago, ſince in one of the northern counties, turnips ſee be grown for the ſake of the blade, rather than the apple; and a farmer who was boaſt a fine thick crop (for the turnips literally ſtood as thick as cabbage plants in the ſeed really thought himſelf laughed at, on being told that his crop ought to have been twice and the plants regularly ſet out nine or ten inches aſunder.

A ſociety for the improvement of agriculture was inſtituted in this county about a yea

There certainly are in this county a number of active, intelligent farmers, who ſhewn a laudable ſpirit in the improvement of their lands, and who have ſpared n trouble or expence in making experiments.

county like
ttention; b
be a principal
our farmers (t

re attentive to the cultivation of their land) they are juſt the reverſe with reſpect to fences, as well as to the breed of their ſtock (as was before obſerved) and in both reſpects this neighbourhood certainly ſtands in need of improvement. As to ſtock, is indeed but little breed: but there requires ſome emulation to be excited among the rs—their pride ſhould be touched—in order to induce them to pay more attention to eed of what little they attempt to bring up. As to fencing, our common labourers oſt of them entirely ignorant of the proper mode of planting quick: and after it is d, our farmers are quite as inattentive to its welfare: ſeldom do they think of g it, or defending it from cattle while young, ſo that our encloſures are generally dis- by a fence full of gaps. When harveſt is once over, the farmer thinks no more of his till his fields are ſown with corn again; indeed it is not uncommon for the cattle to he range of the whole farm by means of theſe broken gaps, which the farmer ſees t the leaſt concern whatever: and when the fences are to be mended, they indeed e gaps with a few dead buſhes, but they never take the leaſt pains to inlay a little uick, that the fence may in time be reſtored.

s here (as in other counties more or leſs) one grand obſtacle to all improvement; at as is the induſtry and judgment of our farmers in the cultivation of their land, ſtill ceive ſo ſevere a check to their ſpirit of improvement, when they ſee the tythe-owner from them a tenth of all their produce, that it frequently puts an end to all enterprize periment. Perhaps in no part of the kingdom (thoſe excepted where hops are more par- y cultivated) is agriculture carried on in ſo expenſive a ſtile as here; for it is not mon for a man, who takes a conſiderable farm, in the two or three firſt years of his o expend (according to the ſize of his farm) 1000l. or 1200l. in the improvement of d, in levelling, draining, fencing, cleanſing rough ground, and many other expenſive ns, and perhaps even giving the ſoil a new ſurface by carrying on a ſtratum of clay; his he does without regret, and indeed under the idea and expectation of being amply ſo long as he is able to compound for his tythe at a moderate rate: but in a pariſh, he tythe is taken in kind, or (which is nearly the ſame thing) where an exceſſive com- is demanded, in conſequence of improvements, which the farmer is making at ſome and certain expence, he is very likely to ſtop ſhort and argue in this way "Would the wner be content with a compoſition equal to a tenth of the produce of my land in its ſtate, I ſhould then exert myſelf, and lay out my money with pleaſure, becauſe I e able to conſider as my own all the extra produce ariſing from my land in conſequence iligence and the money I expend; but if he is to reap the benefit of all this, and rob tenth part of the produce of my improvements (which perhaps after all may be the whole et profit) I will remain quiet, run no hazard, and content myſelf with barely plough- ſowing my land in its preſent ſtate, for I never will ſubmit to the tythe-owner taking e a tenth of all the money I expend, as well as of my additional labour." This is

a very

a very probable, as well as a very fair and rational argument for a farmer to uſe, who in many inſtances, makes his improvements and lays out his money at conſiderable hazard—the expence of his experiments is certain—the event of them is uncertain. Should they not fully anſwer his expectation, and only partially ſucceed; in that caſe, even if his improvements are not tythed, he loſes his time, his labour, and in part his money: but if his tythes are taken in kind, although the farmer himſelf is a loſer by his experiments, ſtill the tythe-owner is more or leſs a gainer—he gains an addition to his tythe, which coſt him nothing to obtain, whilſt the farmer is deprived of a tenth of his additional produce, the whole of which would neither have repaid him his expences, nor made him amends for his trouble. Thus tythes taken in kind, (here more eſpecially, where agriculture is carried on at ſo great an expence) are not only injurious to the farmer, but are every day becoming a great grievance to the public; inaſmuch as they diſcourage, and frequently prevent, thoſe experiments and improvements, by which the community would receive infinite advantage.

RS to the ſeveral QUERIES reſpecting the Pariſh of *Dunmow*

PROPOSED BY MR. VANCOUVER,

Direction of the BOARD OF AGRICULTURE,

By the Rev. JOHN HOWLETT, *Great Dunmow, Eſſex.*

S you have yourſelf doubtleſs acquired ſufficient knowledge of by your perſonal
es.

geſt farm contains about 320 acres, excluſive of woods; which contains 130 more.
e about twenty-five farms under thirty acres each. All the reſt of intermediate ſize.
n we have ſeveral farmers who occupy three, four, or more farms a piece; but not-
nding this, no individual holds 400 acres.

e 3974 acres of cultivated arable land, 900 of paſture, and 300 of woodland. Of
ture 500 is very good, 200 very indifferent, and 200 tolerably good. The hay from
t is frequently ſold at three guineas an acre, and the feed of the after-graſs let at
ſhillings; and at that price are ſometimes really cheap.

ticular graſſes are cultivated; they are here the immediate produce of nature, vary-
y according to the variety of ſoil and ſituation. When arable is occaſionally laid
o paſture, it is uſually, I believe, by ſowing rye graſs and clover. I know not that
ſtock is ſubject to any particular maladies, different from thoſe common in the
urhood, which you probably informed yourſelf of in your perſonal viſits.

e very little of our land is capable of being artificially watered.

ncipal grains are wheat, barley, oats, peas and beans; our ſeeds, clover, rape, and
; of the laſt a very ſmall proportion. The average rent of our arable land may be
d at about twelve or fourteen ſhillings per acre; and its produce of wheat twenty
, of barley and oats about four quarters, of peas and beans between three and four,
er ſeed between three and four buſhels, of rape three quarters. This laſt year the
was ſcarcely ſixteen buſhels, the barley little more than three quarters, and peas not
ſhels, in many inſtances none at all.

7. Different

7. Different in various parts of the parish, agreeable to the difference of soil. The lighter and better lands, are turnips, barley, clover, wheat, and then fallow—others, barley, oats and fallow. Wet and heavy land, wheat or barley, and clover for seed, and then fallowed rather late in the summer. Sometimes wheat or barley, peas and fallow. Almost, if not quite, one-third of our land is annually in fallow, excepting clover for seed, in the early months of May and June. Both turnips and clover seed answer very well on the lands of tolerably light soil; but the proportion of acres so cultivated is rather small; the annual average not exceeding sixty or seventy acres of each.

8. Partly answered in the preceding. We have no plants for dying, &c. and as to medicinal ones, I am not botanist enough to give any satisfactory information.

9. None but the common dung of stables and farm yards, excepting only the produce of the tanner's and fellmonger's yards. These are laid upon the land from fifteen to fifty cart loads, of perhaps about a cubic yard each per acre, according to particular exigencies; observing however that the last quantity is never bestowed, except when mixt with half or two thirds earth.

10. The ploughs, carts, harrows, rolls, waggons, the same with those in the neighbourhood in general which you have seen.

11. Horses entirely.

12. Harvest sometimes begins about the 20th of July; at others, not till the middle of August. Seed time is equally various, according to the difference of the season. Sometimes it commences so early as the middle of September, and sometimes in the month of October. Clover land, wheat, and forward peas, are seldom sown till the beginning of November.

13. Enclosed from time immemorial.

14. ———

15. From one acre to forty; by far the greatest part from three to twelve.

16. ———

17. None.

18. Not twenty acres in the whole parish. The greater part of the waste lands of this neighbourhood lies in the adjacent parish of Felstead, very commonly supposed to amount to nearly 500 acres, but in fact there are only about 170. They are chiefly depastured by

5, (x ot. In this respect you are

tter a ed most skilful and experienced

r in that parish. They principally belong to the infant son of the late Sir James Tilney
. By enclosure they would probably be of more than double their present value, the
eing in general very good.

ing converted into arable.

best men servants for farmers from 7l. to 8l. or 9l. a year; maid servants 3l. to 4l. for
: servants to gentlemen considerably higher. Farmer's labourers 14d. a day; by the
they earn from 4s. or 6s. to 9s. or 10s. per week, according as the job turns out, or
oportion to the strength or dexterity of the labourer. The daily wages have been
nally raised within these few years about 2d. in the shilling; but the annual earnings,
prehending all descriptions, young and old, strong and infirm, are perhaps not greatly
nced.

grounds we have very little, if any of; a very small proportion of the moory soil,
the requisite draining of it is not fully or properly attended to. The common mode
aining the wettish arable and indeed pasture land, is by means of the common Effex
ditching, which, within the last forty years, has more improved our farms than any
practice.

g and burning have, I believe, not been at all practised in this parish; very little in the
hbourhood, and these not answering expectation.

proportion of woodland I have already stated, which is scarcely a fifteenth part of the
e; nor do I think it is higher in the neighbourhood in general, if indeed so high
underwood is usually felled at about fourteen or fifteen years growth, and the annual
from 10s. to 14s. or 15s. an acre. I know not that either the underwood or timber
ubject to any peculiar diseases. The greatest enemy to the growth of the timber
upon the poorer lands is the white moss; but I know of no particular means which
been adopted to remedy this evil.

price of provisions, such as butcher's meat, flour, &c. nearly the same as in the
don markets, and will probably be much dearer before next harvest for very obvious
ns. And the other necessaries of life will probably advance likewise on an average of
next seven years, from the increase of taxes.

state of our more public roads is very good, excepting only the temporary effects of
ate frost. Our private roads are rather bad, but are gradually becoming better. No
ovement in the mode of making or repairing them, unless the laying the materials
what higher and rounder in the middle than formerly be deemed one. For the better

preſervation of the roads, the greater part of the pollard trees in the hedges, bordering the highway, have been filled within theſe few years.

26. The ſtate of farm houſes you have ſeen; it is, I think, tolerable, both in conſtruction and repair, though in neither by any means extraordinary.

27. Our leaſes vary in point of time from nine years to twenty-one, generally in ſome proportion to the ſizes of the farms reſpectively; but the moſt common period is twelve or fourteen. And the advantage to landlord and tenant muſt be eſtimated accordingly. A few farms in this pariſh, not above three or four perhaps, are let without any leaſe at all; which is manifeſtly, in a ſpeculative view, highly diſcouraging to a ſpirited agriculture; but, in fact, I cannot diſcern, either in this pariſh or the neighbouring ones, any ſtriking difference in the cultivation and improvement of the lands, holden with and without leaſes. This perhaps ariſes partly from the farmer's following and imitating the practice of their neighbours, and partly from a confidence in the fairneſs and indulgence of their landlords. But in this I will ſay no more, as you do not want I should reaſon, but merely ſtate facts.

28. The woollen manufacture flouriſhed very much in this pariſh and neighbourhood about fifty years ago, but is now greatly on the decline, and in leſs than fifty years hence I am apprehenſive will be totally loſt. The influence of this declenſion on the earnings of the poor is ſtriking. The preſent diminution in price of ſpinning work is a loſs of not leſs than 500l. a year to this ſingle pariſh alone. We have a ſmall manufacture of ſacks, which is rather in a flouriſhing ſtate; employing, I believe, thirty hands, and has exiſted about ten or fifteen years.

29. None, except our mode of land-ditching, which is now pretty generally known.

30. An Agricultural Society was inſtituted in this county above two years ago. The greateſt deſideratum was thought to be an improvement in our breed of cattle; but the ſubtleſt ingenuity could ſcarcely have ſuggeſted a more effectual meaſure to prevent this improvement, than that adopted by the ſociety. Premiums were propoſed for the beſt ſtallion, bull, boar, ram, &c. of a certain age, bred within the limits of the county. This entirely diſcouraged that emulation which, without ſuch limitation, would have immediately taken place amongſt the farmers for procuring the fineſt of each kind that could have been found in any part of the kingdom. Theſe obtained, one condition of granting premiums might have been, that they ſhould be under certain reſtrictions, for the uſe of their reſpective neighbours. This would ſoon have produced a great advance towards a conſiderable degree of perfection in each ſpecies, and it would have fully aſcertained

t i[illegible] ſtion; of which I am not

[illegible] ing generally more advan-

cous to leave breeding to other counties. Our breed of ſheep fifty years ago wa
ger and finer than at preſent; but not nearly ſo profitable to the farmer as thoſe now
ught from Norfolk and Wilts annually.

people certainly have a turn for improvement, and actually do from time to time im-
ve in their agricultural management.

r what is ſaid in article 30, this requires nothing further.

haps tythes and want of leaſes may have, in ſome particular caſes, been obſtacles to
provement; though I muſt confeſs that I am unable to point out proofs of the fact.
commutation for tythes I ſhould wiſh for, is nearly the ſame with that propoſed in
Agricultural Survey of Staffordſhire. A navigable canal through this pariſh would
bably be the greateſt ſource of improvement I can at preſent conceive; as it might
ve the means of bringing great quantity and variety of manures ſuited to our ſeveral
eties of ſoil and ſituation. Without this I ſee very little probability of any conſider-
advance.

diſtinction of houſes and families I have always found extremely difficult to aſcertain,
perhaps were twenty perſons employed to make the enumeration, their accounts
ld all be different. As nearly as may be the number of houſes in this pariſh is about
, and of families 365. The number of perſons on an average of five ſurveys, made
ceſſively in the years 1785—87—89—91 and 95, 1663. The annual burials on an
rage of the laſt 13 years are 39, and conſequently the average annual mortality one
bout 42$\frac{3}{4}$; an indication of at leaſt tolerable healthineſs.

The poor's rates on an average of four years were, beginning at Eaſter,

years.	£.	s.	d.
1719	260	6	8
1731	277	11	8
1736	428	1	7
1741	402	1	6
1746	442	11	1$\frac{1}{2}$
1768	773	9	5
1773	847	10	8
1781	951	19	8
1785	807	16	4
1790	698	11	4

You ſee that during the laſt twelve years the three averages, of four years each, have creaſed more than 100l. a year. This has been owing, I believe, to theſe two cau firſt, a determination in the pariſh officers to ſpare their money to the utmoſt; ſecondly, by admitting as few as poſſible into the workhouſe; where experience taught them, that the maintenance of the poor is much more expenſive than out of Perhaps this circumſtance alone will account for a very large proportion of the abo ſtated decreaſe. The price of proviſions has all the time been greatly advancing; natural concluſion ſeems to be, that the neceſſities of the poor have not been ſo well p vided for. This however is not to be admitted in its full apparent extent; for it i be obſerved, that in the year 1782 a putrid fever took place, and carried off three ti the average number; and chiefly prevailing amongſt the poor, it at once raiſed the r from about 800l. to upwards of 1200l. The workhouſe is, upon the whole, very v conducted. The rates will be very high this year, beſides a voluntary contributio upwards of 190l.

5. The feeding, treating, management, and working of the farmer's horſes, is infinit various, according to the temper, views and generoſity of the farmers. Thoſe who tak pride in having fine-horſes, feed them high and work them moderately, that they may alw as it were, be ready for ſale. Thoſe who have little concern about the appearance their horſes, nor their breed, keep an ordinary ſort both in ſize and figure, and give th juſt ſufficient to enable them to hold their work, and often become dreadfully poor lean. In ploughing and carting manure, they uſually continue it from ſix in the mo ing to about two in the afternoon; are then taken home, fed and *dreſſed*, as it is h uſually called, but go out no more that day, as, I believe, is cuſtomary in ſome part Norfolk and Suffolk. Our general breed of horſes, in this pariſh and neighbourho is greatly improved, within the laſt forty years, both for the plough and the ſaddle.

6. Our tythes are commuted: the great tythes are, I believe, nearly double what they w fifty years ago, and are ſtill moderate. The ſmall tythes have not been advanced in ſame period any thing at all before laſt year, when an addition of about two-thirds of former ſum was made; and now they are not charged at one-third of their real val The rents within the ſame courſe of years have not been raiſed above one-eighth, a were they advanced to the utmoſt of which they are capable, it would not be above o fourth, if ſo much; nor would it be nearly ſo much, if the tythes were taken in ki ot any thi [illegible] e [illegible], t[illegible] this diſproportion [illegible] the value c[illegible] pr[illegible] them; and nothi

the forbearance and moderation of the clergy can make them tolerable. As to a general commutation I know not any better than that already referred to as made in the Agricultural Return for Staffordſhire. The farmers are the only perſons who generally complain on this head; but if they are wiſe, they will never wiſh for their abolition; for what they now contingently get, from the moderation of the clergy, the landlords would immediately put in their own pockets, and the farmers burdened with increaſed rents, rates, and taxes, would feel how indiſcreet were their former complaints.

FINIS.

ERRATA:

Page 15 line 5 *for* ſmaller *read* ſmall
16 laſt line *for* powers *read* progreſs
17 laſt line *for* follows *read* follow
20 line 18 *for* Norfold *read* Norfolk
24 4 *for* furrows upon which *read* furrows only of which
25 22 *for* continue upon *read* attend
25 24 *for* and are as follow *read* which were as follow
28 5 *for* ſays *read* ſayes
30 5 *for* that *read* which
40 4 *for* corporation *read* borough
42 laſt but 1 *for* were they not *read* were not theſe
51 11 *for* as has alſo *read* as have alſo
60 13 *for* total net profits *read* total net annual profits
78 laſt but 3 *for* particular dry *read* particularly dry
80 8 *for* the limbs *read* their limbs
87 22 *for* rot in ſheep *read* rot to ſheep
99 7 *for* that of the *read* thoſe of the---line 11 *for* rlieeving *read* relieving
113 8 *for* 2203 of commons *read* 2203 acres of commons
125 27 *for* a ſhort inſtance as the Wales cows *read* for inſtance as the Welch cows
129 3 *for* Harford *read* Hertford---line 21 *for* abſolute *read* abſolutely
134 21 *for* compact *read* compactly---line 22 *for* tolerable *read* tolerably
138 11 *for* from the beam *read* for the beam
139 laſt but 2 *for* the field that lies nearly level drawing *read* a field that lies nearly level draw
140 1 *for* requiring *read* require
142 2 *for* their *read* its
143 23 *for* in that of chalk *read* or that of chalk
147 laſt but 2 *for* effect the root *read* the effects which the roots
161 7 *for* lion *read* lies
180 13 *for* draught *read* drought
181 5 *for* from their want *read* from the want
182 21 *for* from how long they may continue to withhold their authority, *read* how long it may continue to withhold its authority

In ſpeaking of the poors rates always *read* theſe have increaſed *inſtead of* they have increaſed.

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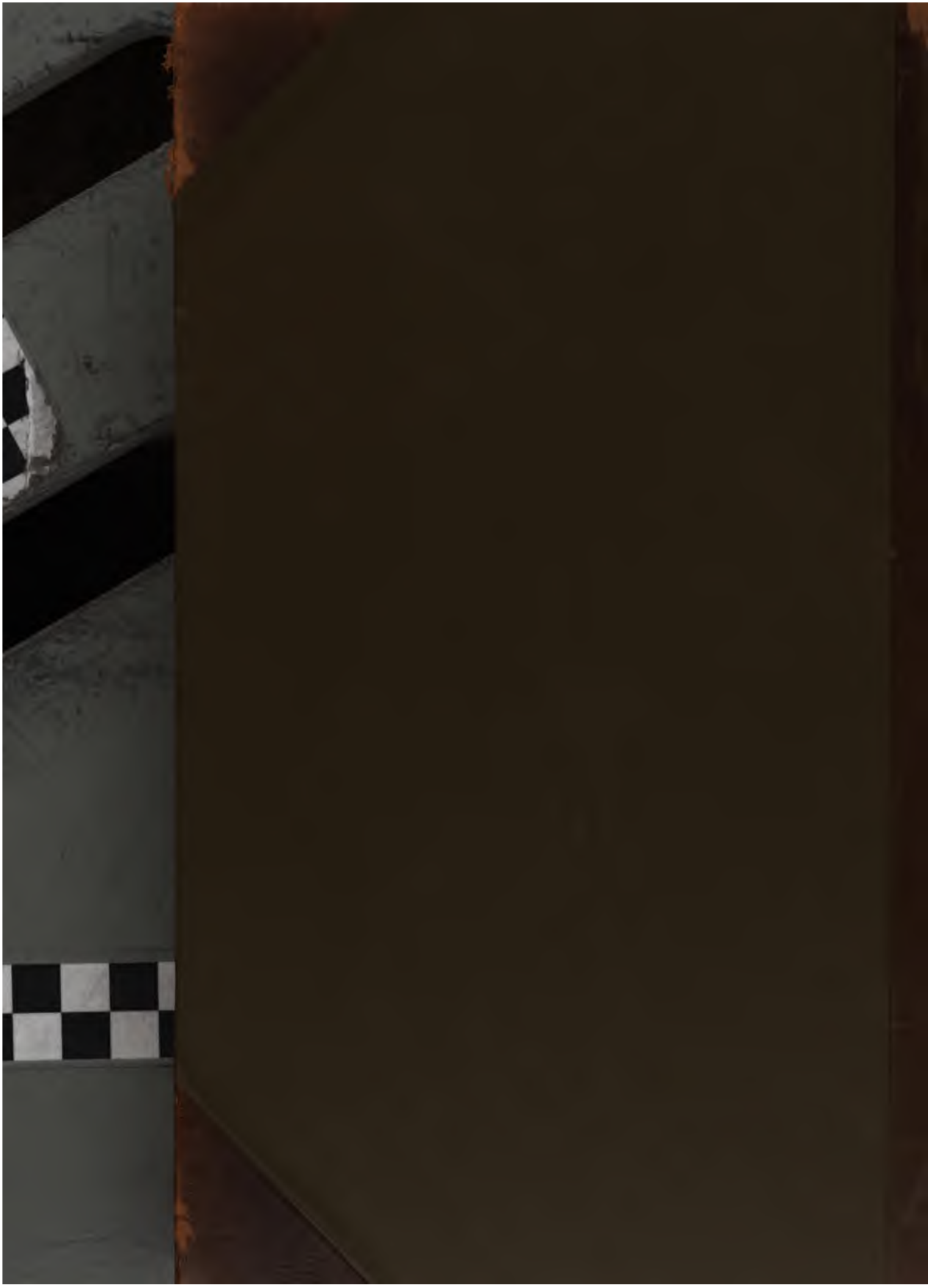
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